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ORGANISM: Homo sapiens
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/cgn2_6/ptodata/1/iaa/PcTUS_COMB.pep:*
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              GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
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Sequence 55, Application US/09557800C

Patent No. 6476211

GENERAL INFORMATION:

APPLICANT: Ford, Julio

APPLICANT: Ford, Julio

APPLICANT: Pred, Julio

APPLICANT: Malero, Julio

APPLICANT: Methods and Materials Relating to CD39-Like

TITLE OF INVENTION: Methods and Materials Relating to CD39-Like

TITLE OF INVENTION: Methods and Materials Relating to CD39-Like

TITLE OF INVENTION: Methods and Materials Relating to CD39-Like

TITLE OF INVENTION: POLYPEPTION: PRIOR FILING DATE: 1999-07-16

PRIOR FILING DATE: 1999-07-16

PRIOR FILING DATE: 1999-02-04

PRIOR FILING DATE: 1999-07-16

NUMBER OF SEQ ID NOS: S6

SOUTHARE: PALEATIN VET: 2.0

SOUTHARE: PALEATIN VET: 2.0
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100.0%; Score 2369; DB 4;
Best Local Similarity 100.0%; Pred. No. 4.5e-244;
Matches 443; Conservative 0; Mismatches 0;
                                           US-09-905-743B-14
US-09-206-743B-15
US-09-905-744B-15
US-09-905-744B-15
US-10-107-560-15
US-09-905-732B-15
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Sequence 1. Application US/08930921B

| Sequence 1. Application US/08930921B
| Patent No. 6287837
| GENERAL INFORMATION:
| APPLICANT: BEAUDOIN, Adrien R.
| APPLICANT: SEVIGNY, Jean
| TITLE OF INVENTION: THEREOF AND PROCESS OF PURIFICATION
| TITLE OF INVENTION: TECHNOLOGY
| TITLE OF INVENTION: TECHNOLOGY
| TITLE OF INVENTION: TECHNOLOGY
| FILE REFERENCE: ATP-DIPHOSPHOHYDROLASES-BEAUDOIN
| CURRENT APPLICATION NUMBER: US/08/930,921B
| CURRENT FILING DATE: 1996-04-10
| RARLIER FILING DATE: 1996-04-10
| NUMBER OF SEQ ID NOS: 8
| SOFTWARE: Patentin Ver. 2.0
| SEQ ID NO 1
| LENTH: 510
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                     336 SYCPYSQCAFNGIFLPPILQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWE
                                                                361 BIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYM
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Best Local Similarity 100.0%; Pred. No. 4.6e-244;
Matches 443; Conservative 0; Mismatches 0;
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APPLICANT: Ford, John

APPLICANT: Ford, John

APPLICANT: Ford, John

APPLICANT: Mulero, Julio

TITLE OF INVENTION: METHODS AND MATERIALS RELATING TO NOVEL CD39-LIKE POLYPEPTIDES

TITLE OF INVENTION: METHODS AND MATERIALS RELATING TO NOVEL CD39-LIKE POLYPEPTIDES

CURRENT APPLICATION NUMBER: US/09/370,625A

CURRENT FILING DATE: 1999-07-09

PRIOR APPLICATION NUMBER: 09/350,836

PRIOR FILING DATE: 1999-07-09

PRIOR FILING DATE: 1999-07-09

PRIOR FILING DATE: 1999-03-19

NUMBER OF SEQ ID NOS: 39

SOFTWARE: PATCHILI VET: 2.0

SOFTWARE: PATCHILI VET: 2.0

SEQ ID NO 38

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                                                                           GLTQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFV
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                                                        GASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASN
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US-09-370-625A-38
Sequence 38, Application US/09370625A
; Patent No. 6600032
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CORGANISM: Homo sapiens
US-09-370-625A-38
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Best Local S
Matches 443
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                         GENERAL INFORMATION:
APPLICANT: BEAUDOIN, Adrien R.
APPLICANT: SEVICANT, Jean
APPLICANT: SEVICANT:
APPLICANT: SEVICANT:
APPLICANT: ROBSON, Simon
TITLE OF INVENTION: THEREOF AND PROCESS OF PURIFICATION
TITLE OF INVENTION: TECHNOLOGY
TITLE OF INVENTION: TECHNOLOGY
TITLE OF INVENTION: TECHNOLOGY
FILE REFRENCE: 920333.90019
CURRENT APPLICATION NUMBER: U9/90/781,796C
CURRENT APPLICATION NUMBER: 08/419,204
PRIOR FILING DATE: 1995-04-10
PRIOR FILING DATE: 1995-04-10
PRIOR FILING DATE: 1996-04-10
PRIOR PLING DATE: 1996-04-10
PRIOR PLING DATE: 1996-02-01
NUMBER OF SEQ ID NOS: 8
SOFTWARE: PATENTIN VET: 2.1
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; Pred. No. 4.6e-244;
0; Mismatches 0;
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Sequence 1, Application US/09781796C
Patent No. 6800284
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Sequence 4, Application US/09240639

; Patent No. 6350447

; GENERAL INFORMATION:
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Best Local Similarity 100.0%;
Matches 443; Conservative 0;
                                                                                                                                                                                                                                                                                                                                                                                TYPE: PRT
ORGANISM: Homo sapiens
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APPLICANT: Chadwick, Brian Paul
APPLICANT: Frischauf, Anna Maria
TITLE OF INVENTION: METHODS AND COMPOSITIONS RELATING TO CD39-LIKE POLYPEPTIDES AND
TITLE OF INVENTION: METHODS
TITLE OF INVENTION: ACIDS
TITLE OF INVENTION: ACIDS
CURRENT APPLICATION NUMBER: US/09/908,510A
CURRENT APPLICATION NUMBER: US/09/240,639
PRIOR PILING DATE: 1999-01-29
PRIOR PILING DATE: 1999-01-29
NUMBER OF SEQ ID NOS: 32
SOFTWARE: Patentin version 3.1
SEQ ID NO 4
LENGTH: 529
TYPE: PRT
TYPE: PRT
CREANISM: Homo Sapiens
US-09-908-510A-4
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APPLICANT: Chadwick, Brian Paul
APPLICANT: Frischauf, Anna-Maria
TITLE OF INVENTION: METHODS AND COMPOSITIONS RELATING TO CD39-LIKE
TITLE OF INVENTION: POLYPEPTIDES AND NUCLEIC ACIDS
FILE REFERENCE: 9598-06
CURRENT APPLICATION NUMBER: US/09/240,639
CURRENT FILING DATE: 1998-01-29
NUMBER OF SEQ ID NOS: 29
SOFTWARE: Patentin Ver. 2.0
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                                                                                                                                                                                                                                                                                                           ; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-240-639-4
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TOVTFVPONOTIESPDNALOFRLYGKDYNVYTHSFLCYGKDOALWOKLAKDIOVA-SNEI
                                                                         285 LINPCYPRDYSISFIMGHVFDSLCTVDQRPESYNPNDVITFEGTGDPSLCKEKVASIFDF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Chadwick, Brian Paul
APPLICANT: Chadwick, Brian Paul
APPLICANT: Frischauf, Anna-Maria
TITLE OF INVENTION: METHODS AND COMPOSITIONS RELATING TO CD39-LIKE
TITLE OF INVENTION: POLYPEPTIDES AND NUCLEIC ACIDS
FILE REFERENCE: 9598-066
CURRENT FILING DATE: 2002-03-27
PRIOR APPLICATION NUMBER: US/09/240, 639
PRIOR FILING DATE: 1998-01-29
NUMBER OF SEQ ID NOS: 29
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38.5%; Score 911; DB 4; Length 52
Best Local Similarity 40.9%; Pred. No. 3.5e-88;
Matches 182; Conservative 81; Mismatches 174; Indels
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                                                                                                                                                                                                                                                                                                                                                             Sequence 4, Application US/10107660; Patent No. 6780977; GENERAL INFORMATION:
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US-10-107-660-4
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US-10-107-660-4
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CHERALING CANDALLY:
CHERALING CANDALLY:
APPLICANT: Chadwick, Brian Paul
APPLICANT: Chadwick, Brian Maria
TITLE OF INVENTION: METHODS AND COMPOSITIONS RELATING TO CD39-LIKE POLYPEPTIDES AND
TITLE OF INVENTION: ACIDS
FILE SPERENCE: 28110/36120A
CURRENT APPLICATION NUMBER: US/09/905,744B
CURRENT APPLICATION NUMBER: 09/240,639
PRIOR PILING DATE: 1999-01-29
NUMBER OF SEQ ID NOS: 32
SOFTWARE: Patentin version 3.1
SEQ ID NO 4
LENGTH: 529
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                                Length 529
                              ; Score 911; DB 4; Length 529; Pred. No. 3.5e-88; 81; Mismatches 174; Indels
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Best Local Similarity 40.9
Matches 182; Conservative
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Best Local Similarity
Matches 182; Conserv
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APPLICANT: Chadwick, Brian Paul
APPLICANT: Chadwick, Brian Paul
APPLICANT: Fischauf, Anna Maria
APPLICANT: Fischauf, Anna Maria
APPLICANT: Fischauf, Anna Maria
APPLICANT: Fischauf, Anna Maria
CURENT: 20110/36120B
CURRENT APPLICATION NUMBER: US/09/905,732B
CURRENT APPLICATION NUMBER: 090240,639
PRIOR APPLICATION NUMBER: 092240,639
PRIOR FILING DATE: 1999-01-29
NUMBER OF SEQ ID NOS: 32
SOFFWARE: Patentin version 3.1
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GENERAL INFORMATION:

APPLICANT: KATZ, RUTH
APPLICANT: JIANG, FEBG
TITLE OF INVENTION: DETECTION AND DIAGNOSIS OF SMOKING RELATED CANCERS
FILE REFERENCE: UTSC:658US
CURRENT PAPLICATION NUMBER: US/09/923,304
CURRENT FILING DATE: 2001-08-06
NUMBER OF SEQ ID NOS: 11
SEQ ID NO 4
LENGTH: 529
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40.9%; Pred. No. 3.5e-88;
Live 81; Mismatches 174; Indels
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; Sequence 4, Application US/09923304
; Patent No. 6797471
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Best Local Similarity 40.9%
Matches 182; Conservative
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ORGANISM: Homo sapiens
US-09-923-304-4
GENERAL INFORMATION:
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TYPE: PRT
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167 QPFDFRGAQIISGQEEGVYGMITANYLMGNFLEKNLWHNWV--HPHGVETTGALDLGGAS 224
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Best Local Similarity 40.9%; Pred. No. 3.5e-88;
Matches 182; Conservative 81; Mismatches 174; Indels
                                                                                                                                                                                                                                                                                               APPLICANT: Chadwick, Brian Paul
APPLICANT: Chadwick, Brian Paul
APPLICANT: Frischauf, Anna Maria
TITLE OF INVENTION: METHODS AND COMPOSITION
TITLE OF INVENTION: ACIDS
FILE REFERENCE: 28110/36120H
CURRENT APPLICATION NUMBER: US/10/107,576
CURRENT PILING DATE: 2002-03-27
PRIOR APPLICATION NUMBER: 09/240,639
PRIOR FILING DATE: 1999-01-29
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Patent No. 6783959
GENERAL INPORMATION:
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SOFTWARE: Patentin version 3.1
SEQ ID NO 4
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US-09-905-732B-4
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COMPOSITIONS RELATING TO CD39-LIKE POLYPEPTIDES AND
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                              124 YPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGAS
                                                               167 OPFDFRGAQIISGQEEGVYGWITANYLMGNFLEKNLWHMWV--HPHGVETTGALDLGGAS
                                                                                                                                                  TQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVA-SNEI
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38.5%; Score 911; DB 4; Length 52
Best Local Similarity 40.9%; Pred. No. 3.5e-88;
Matches 182; Conservative 81; Mismatches 174; Indels
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APPLICANT: Chadwick, Anna Maria
TITLE OF INVENTION: METHODS AND COMPOSITIONS
TITLE OF INVENTION: ACIDS
FILE REFERENCE: 28110/36120C
CURRENT APPLICATION NUMBER: 105/9905,743B
CURRENT FILING DATE: 2001-07-13
PRIOR FILING DATE: 1999-01-29
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQ ID NOS: 32
SOFTWARE: PatentIn version 3.1
SEQ ID NO 4
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US-09-905-743B-4
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US-09-905-743B-4
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APPLICANT: VENTER, J. Craig et al.

TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED

TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF

FILE REFERENCE; CLOO1307

CURRENT APPLICATION NUMBER: 60/241,755

PRIOR PILING DATE: 2000-10-20

PRIOR APPLICATION NUMBER: 60/231,768

PRIOR APPLICATION NUMBER: 60/231,498

PRIOR PILING DATE: 2000-10-03

PRIOR PILING DATE: 2000-10-03

PRIOR PILING DATE: 2000-10-03

PRIOR FILING DATE: 2000-10-03

SOFTWARE: FastSEQ for Windows Version 4.0

SEQ ID NOS: 207012
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                                                         81; Mismatches 174; Indels
38.5%; Score 911; DB 4;
40.9%; Pred. No. 3.5e-88;
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Patent No. 6812339
                                                         182; Conservative
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US-09-949-016-6049
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Sequence 11328; Application US/09949016

Patent No. 6814339

GENERAL INFORMATION:

APPLICANT: VENTER, J. Craig et al.

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF

CURRENT APPLICATION NUMBER: 00/29,949,016

CURRENT FILING DATE: 2000-10-20

PRIOR FILING DATE: 2000-10-20

PRIOR FILING DATE: 2000-10-03

PRIOR FILING DATE: 2000-09-08

NUMBER OF SEQ ID NOS: 207012

SOFTWARE: PSEGEE FOR WINGOWS Version 4.0

LENGTH: 556
EEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGY 419
                                                              74 KQBVL.PPGLKYGIVLDAGSSRTTVYVYQWPAEKENNTGVVSQTFKCSVKGSGISSYGNNP 133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            124 YPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGAS 183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         194 QPFDFRGAQIISGQEEGVYGWITANYLMGNFLEKNLWHWWV--HPHGVETTGALDLGGAS 251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TOVIFVPONQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVA-SNEI 242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LRDPCFHPGYKKVVNVSDLYKTPCT--KRFEMTLPFQQFEIQGIGNYQQCHQSILELFNT 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301 SYC-PYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPW 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  360 BEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGY 419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SQLPLILPKFDEVYARSYCFSANXIYHLFVNGYKFTEETWPQIHFEKEVGNSSIAWSLGY 490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               64 NEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSN 123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4 QNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQKV 63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 556;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           i 38.5%; Score 911; DB 4; Length 55 ilarity 40.9%; Pred. No. 3.8e-88; Conservative 81; Mismatches 174; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       420 MINLTHMIPAEQPL-STPLSHSTYV 443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MINITUMIPAEOPL-STPLSHSTYV 443
                                                                                                                      Query Match
Best Local Similarity
Matches 182; Conserva
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; ORGANISM: Human
US-09-949-016-11328
                                                                                                                                                                                        US-09-949-016-11328
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Sequence 7977, Application US/09949016

Patent No. 6812339
GENERAL INCORMATION:
TILLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF
TILLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF
TILLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF
CURRENT APPLICATION NUMBER: US/09/949,016
CURRENT APPLICATION NUMBER: 60/241,755
PRIOR PILING DATE: 2000-10-20
PRIOR PELING DATE: 2000-10-20
PRIOR PELING DATE: 2000-10-03
PRIOR PELING DATE: 2000-10-03
PRIOR PELING DATE: 2000-09-08
NUMBER OF SEQ ID NOS: 207012
SEQ ID NOS: 207012
SEQ ID NO 7977
FROM THE PROPERTY OF THE PROPE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181 GASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASN 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                241 EILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPPQQFEIQGIGNYQQCHQSILELFNT 300
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels 251; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 868.5; DB 4; Length 282;
Pred. No. 4.4e-84;
0; Mismatches 0; Indels 251
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Best Local Similarity 43.3%;
Matches 192; Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ) ORGANISM: Human
US-09-949-016-7977
US-09-949-016-7977
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7, 2005, 12:59:07; Search time 13.5165 Seconds (without alignments) 3117.881 Million cell updates/sec
5.1.6
Compugen Ltd.
version:
                                                     protein search, using sw model
GenCore (c) 1993
             Copyright
                                                                                 March
                                                     OM protein
                                                                                Run on:
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US-09-835-147A-2_COPY_39_476 2343 1 QNKALPENVKYGIVLDAGSS......NLTNMIPAEQPLSTPLSHST 438 Perfect score: Sequence:

BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

283416 segs, 96216763 residues

Total number of hits satisfying chosen parameters:

283416

length: 0 length: 2000000000 sed Minimum DB Maximum DB M Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

	Description	lymphoid cell acti	ical p		hypothetical prote	probable nucleotid	probable nucleosid	hypothetical prote	7A19.33 protein -	hypothetical prote	probable quanosine	nucleoside triphos	apyrase (EC 3.6.1.	hypothetical prote	hypothetical prote	guanosine-diphosph	nucleoside-triphos	C4-dicarboxylase-b	hypothetical prote	hypothetical prote	RNA viral polymera	autolysin, N-acety	hypothetical prote	_	_	_		ď		probable histidine
SUMMARIES	ΩI	156242	D86276	E86276	\$50463	T40856	G84442	T34147	C86276	T16696	T39109	S48859	JC4616	T04439	T23508	A40732	A55421	S77299	T21516	T27332	B43963	AB1411	D86247	B84532	B89985	T05213	T18979	T17414	A96738	T03774
	DB	7	N	0	~	N	~	~	~	~	~	~	~	N	~	~	N	~	N	N	~	N	N	~	~	~	~	~	7	7
	Length	510	483	405	630	572	516	485	508	557	556	455	454	1052	479	518	628	369	716	307	1951	590	797	686	1509	371	999	3848	392	494
	Match	100.0	21.6	•	σ	17.8	17.3	~	16.8	16.4	16.3	••				•	7.1	4.4	4.3	4.3	4.2	4.2	4.2	٠	4.2	4.2	•	4.2	4.2	4.1
	Score	2343	505	469.5	453	416	406.5	02.		383.5	381.5	374	334	332	328.5	320.5	167	103	101.5	100	66	98.5	98.5	•	98.5	98	86	98	97.5	97
į	No.	7	~	m	4	'n	ø	7	6 0	σ	10	=	12	13	14	15	16	11	18	13	20	21	22	23	24	25	56	27	58	29

probable fimbrial myosin I beta - bu (R)-2-hydroxyaluta	hypothetical prote serine/threonine k spore germination	Mg2+ transporter h hypothetical prote lacticin 481/lacto	probable permease probable permease hypothetical prote	hypothetical 51.7 probable dnaK prot	probable dnaK-type fibroblast growth
B85725 I51173 A72369	F89770 AG2391 B48583	G69859 S15962 T43110	G91228 F86075 T21251	H65192 A90715	H64799 TVHUF3
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30 31 32	. 4	36 38 38	39 41 11	4 4 2 E	4 4 5

ALIGNMENTS

man	C;Date: 02-Jul-1996 #sequence_revision 02-Jul-1996 #text_change 09-Jul-200	C;Accession: 156242 R;Maliszewski, C.R.; Delespesse, G.J.; Schoenborn, M.A.; Armitage, R.J.; E		A; Title: The CD39 lymphoid cell activation antigen. Molecular cloning and	
lymphoid cell activation antigen - human C; Species: Homo sapiens (man)	C;Date: 02-Jul-1996 #sequence_revisio	C;Accession: 156242 R;Maliszewski, C.R.; Delespesse, G.J.	J. Immunol. 153, 3574-3583, 1994	A;Title: The CD39 lymphoid cell activ	

structural cha

Fanslow, W.C.;

9

A,Reference number: I56242; MUID:95015846; PMID:7930580
A;Accession: I56242
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-510 cRES>
A;Cross-references: UNIPROT:P49961; GB:S73813; NID:g765255; PIDN:AAB32152.1; PID:g765256
C;Superfamily: nucleoside triphosphatase chromatin-associated

1 ONKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQKV Gaps ö 510; Length 0; Indels Query Match
100.0%; Score 2343; DB 2;
Best Local Similarity 100.0%; Pred. No. 6.8e-183;
Matches 438; Conservative 0; Mismatches 0;

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61 NEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSN 120 99 NEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSN 158 121 YPPDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGAS 180 218 TQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEIL 240 219 TQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQAL#QKLAKDIQVASNEIL 278 98 39 QNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQKV 159 YPFDFQGARIITGGEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGAS 181 g g g g ò ò ò

241 RDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTSYC 300 279 RDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTSYC 338 ò g

> ò g ò

TNMIPAEQPLSTPLSHST 438 459 421 요 ò 셤 17;

61;

Length Indels 85

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ansen, N.F.; Hughes, B.; Huizar, L.

Nature 408, 816-820, 2000

A;Authors: Hunter, J.L.; Jenkins, J.; Johnson-Hopson, C.; Khan, S.; Khaykin, E.; Kim, C.; C.A.; Li, J.H.; Lii, X.; Liu, S.X.; Liu, Z.A.; Luros, J.S.; Maiti, R.; Marziali, Rizzo, M.; Rooney, T.; Rowley, D.; Sakano, H.

A;Authors: Salzberg, S.L.; Schwartz, J.R.; Shinn, P.; Southwick, A.M.; Sun, H.; Tallon, ker, M.; Wu, D.; Yu, G.; Fraser, C.M.; Venter, J.C.; Davis, R.W.

A;Title: Sequence and analysis of chromosome 1 of the plant Arabidopsis.

A;Recession: B86276

A;Accession: B86276

A;Accession: L965.76

A;Accession: L965.76

A;Accession: Second control of the plant Arabidopsis.

A;Accession: Second control of the plant Arabidopsis.
                                                                                                                                                                                                                                                                                                                                                                                            A, Cross-references: UNIPROT: Q9M9T7, GB: AE005172; NID: 97262666; PIDN: AAF43924.1; GSPDB: GN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LNLTSEKVSQEKVTEMM---KKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQG 388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LDVVERSLSNYPFDFQG--ARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQ 168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         225 WQKLAKDIQVASNE-ILRDPCFHPGYKKVVNVSDLYKTPCTK-------RFEMTLPF 273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ETFGALDLGGASTQVTFVPQNQTIESPDNALQFRLYGK-DYNVYTHSFLCYGKDQA---L 224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           274 QQFEIQGIGNYQQCHQSILELF -- NTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          20.0%; Score 469.5; DB 2;
31.2%; Pred. No. 2.2e-30;
ive 65; Mismatches 145;
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A; Cross-references: SGD: S0000807
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A; Map position: 5R
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Best Local Simil
Matches 123; C
                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Map position: 1
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D86276

Hypothetical protein F7A19.34 [imported] - Arabidopsis thaliana
C; Species: Arabidopsis thaliana (mouse-ear crees)
C; Species: Arabidopsis thaliana (mouse-ear crees)
C; Date: 02-Mar-2001
Bsequence_revision 02-Mar-2001
Bsequence_revision 02-Mar-2001
C; Accession: D86276
A; Authors: Hunter, J.E.; Conway, A.B.; Conway, A.R.; Creasy, T.H.; Dewar, K.; ansen, N.F.; Hughes, B.; Huizar, L.; Conway, A.B.; Conway, A.R.; Creasy, T.H.; Dewar, K.; ansen, N.F.; Hughes, B.; Huizar, L.; Conway, A.B.; Liu, Z.A.; Maiti, R.; Marziali, Rizzo, M.; Rooney, T.; Rowley, D.; Schano, T.; Schwartz, J.R.; Schwartz, J.R.
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E86276
hypothetical protein F14L17.1 - Arabidopsis thaliana
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004
C;Accession: E86276
R;Theologis, A.; Ecker, J.R.; Palm, C.J.; Pederspiel, N.A.; Kaul, S.; White, O.; Alonso, Chin, C.W.; Chung, M.K.; Conn, L.; Conway, A.B.; Conway, A.R.; Creasy, T.H.; Dewar, K.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             18;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGASTQ 182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VTFVPQNQTIESPDNALQFRLYGK-DYNVYTHSFLCYGKDQALWQKLAKDIQVASNE--- 238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -ILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQG----IGNYQQCHQSILE 293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              351
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LIKEGKENCLYEHCSIGSTFTFDLQGSFLATASFYYTAKFFEL-EEKGWLSELIPAGKRY
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 / Match 21.6%; Score 505; DB 2; Length 48 Local Similarity 31.3%; Pred. No. 3.6e-33; Length 48 loss 135; Conservative 70; Mismatches 164; Indels
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331

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A;Molecule type: DNA
A;Residues: 1-630 <DIE>
A;Cross-references: UNIPROT:P40009; EMBL:U18778; NID:g603592; PID:g603597; GSPDB:GN00005.
                                                                                                                                                                                                                                                                                                                               and lambda
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           22;
                                                                                                                                    hypothetical protein YER005w - yeast (Saccharomyces cerevisiae)
C;Species: Saccharomyces cerevisiae
C;Date: 28-May-1993 #sequence_revision 24-Feb-1995 #text_change 09-Jul-2004
C;Accession: S50463
R;Dietrich, F.S.
submitted to the EMBL Data Library, December 1994
A;Pescription: The sequence of S. cerevisiae cosmids 9537, 9581, 9495, 9867, A;Reference number: S50433
A;Accession: S50463
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 630;
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19.3%; Score 453; DB 2; I
Best Local Similarity 27.2%; Pred. No. 9.2e-29;
Matches 130; Conservative 91; Mismatches 153;
386
LGVALDD-ERIKYASKAGKENIPLDWALGAFILN
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7 13:29:10 2005

. Mon Mar

1	RESULT 6 G84442 probable nucleoside triphosphatase [imported] - Arabidopsis thaliana C;Species: Arabidopsis thaliana (mouse-ear cress) C;Species: Arabidopsis thaliana (mouse-ear cress) C;Date: 02-Feb-2001 #sequence_revision 02-Feb-2001 #text_change 09-Jul-2004 C;Accession: G84442 R;Lin, X.; Kaul, S.; Rounsley, S.D.; Shea, T.P.; Benito, M.I.; Town, C.D.; Fujii, C.Y.; N.; Koo, H.; Moffat, K.S.; Cronin, L.A.; Shen, M.; VanAken, S.E.; Umayam, L.; Tallon, L. euss, D.; Nierman, W.C.; White, O.; Eisen, J.A.; Salzberg, S.L.; Fraser, C.M.; Venter, J. Nature 402, 761-768, 1999 A;Reference number: A84420; MUD:20083487; PMID:10617197 A;Reference number: A84442 A;Reteus: preliminary A;Molecule type: DNA A;Residues: L.516 <sto></sto>	A,Cross-references: UNIPROT:080612; GB:AE002093; NID:g3461821; PIDN:AAC32915.1; GSPDB:GGenetics: A,Gene: A12202970 A,Map position: 2 C;Superfamily: nucleoside triphosphatase chromatin-associated Query Match Best Local Similarity 27.5%; Pred. No. 4.2e-25; Matches 117; Conservative 68; Mismatches 187; Indels 53; Gaps 13; Qy SINYSQIVEDAGSSHTSLYIVEWPARENDTGVVHQVECRVK-GPGISKFVQKVNEIGIY 66 S::: - - - - - - - - -	Db 230 FVSSEPMPPEFSRTISFGNVTYNLYSHSFLHFGQNAAHDKLMGSLLSRDHNSAVEPTR 287 Qy 237 NEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIGGIGNYQQCHQSILELFN 296 :
Qy 8 NVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVK-GPGI 53 Db 7 NDRFGIVLDAGSSGSRIHVFKWQDTESLLHATNQDSQSILQSVPHIHQEKDWTFKLNPGL 66 Qy 54 SKFVQKVNB-IGIYLTDCMERAREVIPRSQHQETPVYLGATAGWELLRMESEELADRVLD 112 Bb 67 SSFEKKPQDAYKSHIKPLLDFAKNIIPESHWSCPVFIQATAGMELLPQDIQSSILD 123 Qy 113 VVERSLSNYPFDFQGARIITGQBEGAXGWITINYLLGKFSQKTRWFSIVPYETN 166 Bb 124 GLGQGL-KHPABFLVEDCSAQIQVIDGETEGLYGWIGLNYLYTGHFNDYNPEVS 175 Qy 16 Bb 124 GLGQGL-KHPABFLDLGGASTQVTFVPQNOTIESPDNALQFRLYGKDYNYYTH 213 Ch 11	Qy 214 SFICXGKDQALMQKLAKDIQVASNEILRDPCFHPGYKKVVNVSDLYKT 261 1	Sultr 5 Obable nucleotide phosphatase - fission yeast (Schizosaccharomyces pombe) Species: Schizosaccharomyces pombe Date: 03-Dec-1999 #text_change 09-Jul-2004 Accession: T40856 Ramsperger, U.; Pohl, T.; Wood, V.; Rajandream, M.A.; Barrell, B.G. Ramsperger, U.; Pohl, T.; Wood, V.; Rajandream, M.A.; Barrell, B.G. Ramsperger, U.; Pohl, T.; Wood, V.; Rajandream, M.A.; Barrell, B.G. Reference number: 221952 Accession: T40856	QY 10 KYGIVLDAGSSHTSLYIYKWPAEKENDTGVHQVECRVKGPGISKFV 57

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A;Cross-references: EMBL:U39652; NID:g1049390; PID:g1049394; PIDN:AAA80403.1; CESP:R07E4
A;Experimental source: strain Bristol N2
C;Genetics:
A;Gene: CESP:R07E4.4
A;Introns: 39/1; 67/1; 145/2; 192/1; 244/3; 317/3; 451/3; 488/2
A;Authors: Salzberg, S.L.; Schwartz, J.R.; Shinn, P.; Southwick, A.M.; Sun, H.; Tallon, ker, M.; Wu, D.; Yu, G.; Fraser, C.M.; Venter, J.C.; Davis, R.W. A;Title: Sequence and analysis of chromosome 1 of the plant Arabidopsis.
A;Reference number: A86141; MUID:21016719; PMID:11130712
A;Accession: C86276
A;Status: preliminary
A;Molecute: type: DNA
A;Residus: 1-508 <STO-A;Cross-references: UNIPROT:QSXI63; GB:AE005172; NID:g5080800; PIDN:AAD39310.1; GSPDB:GN
C;Genetics:
C;Genetics:
C;Superfamily: nucleoside triphosphatase chromatin-associated
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              127 GARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNN-QETFGALDLG-----GA 179
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 : | |:: | |: | |:: | | |:: | | |:: | | |:: | | |:: | | |:: | | |:: | | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |:: |
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C;Species: Caenorhabditis elegans
C;Date: 20-Sep-1999 #sequence_revision 20-Sep-1999 #text_change 20-Sep-1999
C;Accession: T16696
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              268 STGEGİVPDPCIPKGYILETNLOKDİPGFLADKGKFTATL------QAAGNFSECRSAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8 NVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVK-GPGISKFVQKVNEIGIY
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                16.4%; Score 383.5; DB 2; Length 557; illarity 25.9%; Pred. No. 3.5e-23; Conservative 85; Mismatches 194; Indels 73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 508;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Rimiler, N. submitted to the EMBL Data Library, October 1995 submitted to the EMBL Data Library, October 1995 Alpeaription: The sequence of C. elegans cosmid R07E4 Alpeaription: The sequence of C. elegans cosmid R07E4 Alpearence number: 218561 Alpearence number: 11696 Alpearence preliminary; translated from GB/EMBL/DDBJ Alphalecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
16.8%; Score 394.5; DB 2;
Best Local Similarity 28.2%; Pred. No. 3.9e-24;
Matches 123; Conservative 71; Mismatches 171;
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Best Local Similarity
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CiSpecies: Arabidopsis thaliana (mouse-ear cress)
CiSpecies: Arabidopsis thaliana (mouse-ear cress)
CiSpecies: O2-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004
CiAccession: C86276
R;Theologis, A.; Ecker, J.R.; Palm, C.J.; Federspiel, N.A.; Kaul, S.; White, O.; Alonso, Chin, C.W.; Chung, M.K.; Conn, L.; Conway, A.B.; Conway, A.R.; Creasy, T.H.; Dewar, K.; ansen, N.F.; Hughes, B.; Hulzar, L.
Nature 408, 816-820, 2000
A;Authors: Hunter, J.L.; Jenkins, J.; Johnson-Hopson, C.; Khan, S.; Khaykin, E.; Kim, C.C., A.; Li, J.H.; Li, Y.; Lin, X.; Liu, S.X.; Liu, Z.A.; Luros, J.S.; Maiti, R.; Marziali, Rizzo, M.; Rooney, T.; Rowley, D.; Sakano, H.
                                                                                                                                       hypothetical protein G33H5.14 - Caenorhabditis elegans C:Species: Caenorhabditis elegans C:Species: Caenorhabditis elegans C:Species: Caenorhabditis elegans C:Species: 29-Oct-1999 #text_change 09-Jul-2004 C:Date: 29-Oct-1999 #text_change 09-Jul-2004 C:Accession: T34147
R:Bradshaw, H.; Stallyes, L.
R:Bradshaw, H.; Stallyes, L.
R:Bradshaw, H.; Stallyes, L.
Submitted to the EMBL Data Library, November 1995
A;Description: The sequence of C. elegans cosmid C33H5.
A;Reference number: Z21482
A;Reference number: Z21482
A;Accession: T34147
A;Accession: T34147
A;Accession: T3417
A;Accession: T485 cBRA-A;Bradius L1485 cBRA-A;Bradiuse: 1468 cBRA-A;Bradiuse: 1468 cBRA-A;Cross-references: UNIPROT:018411; EMBL:U41007; PIDN:AAA82272.1; CESP:C33H5.14
A;Experimental source: strain Bristol N2
C;Genetics: A;Gene: CESP:C33H5.14
A;Introns: 22/1; 8331; 120/2; 167/1; 269/3; 399/3
C;Superfamily: nucleoside triphosphatase chromatin-associated
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    350 KFCAQPWEEL----KTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHI-HFIG 403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             184 TFVPQNQTIESPD--NALQFRLYGKD-----YNVYTHSFLCYGKDQALWQKLAKDIQVA 235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     236 SNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELF 295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                124 DFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGASTQV 183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SDSNIRIIDGAWEGIYSWIAVNYILGRFDKE------NDSKVGMIDMGGASVQI 189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSNYPF 123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  286 GDKAQPSCPNPTCFLRNVIAPSVNLSTVQLYGFSBYWYTTSNFGSGGE-YHYQKFTDEVR
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NVKYGIVLDAGSSHTSLYIYKWPAEKENDTGV---VHQVEECRVK-GPGISKFVQKVNEI
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nucleoside triphosphatase precursor, chromatin-associated - garden pea Cispecies: Pisum sativum (garden pea) Cjoate: 13-Jan-1995 #sext_change 09-Jul-2004 Cjoate: 13-Jan-1995 #sext_change 09-Jul-2004 Cjoate: 13-Jan-1995 #sext_change 09-Jul-2004 Cjoate: 13-Jan-1995 #splain Mol. 861147; 848859 R;Hsieh, H.L.; Tong, C.G.; Thomas, C.; Roux, S.J.
R;Hsieh, H.L.; Tong, C.G.; Thomas, C.; Roux, S.J.
R;Hsieh, H.L.; Light-modulated abundance of an mRNA encoding a calmodulin-regulated, chromatin A;Reference number: 865141; MUID:96197404; PMID:8616230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Residues: 1-455 <HS2>
A;Cross-references: UNIPROT:P52914; EMBL:Z32743; NID:g563611; PIDN:CAA83655.1; PID:g5636
C;Superfamily: nucleoside triphosphatase chromatin-associated
C;Keywords: nucleus
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                                                                                                                                                                    394
PCFHPGYKKVVNNVSDLYKTPCTKRFEM-----TLPFQQFEIQGIG 282
                                       352 KESLELLGDSTSIIHPCLH-----LNASLTHPDSKSEASEVVFVGPSLAHLSLQCRGIA 405
                                                                                   283 NYQQCHQSILELFNTSYCPYSQCAFNGIFLPPLQGDFG----AFSAFYFVMKFLNLTSE 337
                                                                                                         68 TDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSN-YPFDFQ 126
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          204
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                                                                                                                                                                  338 KVSQEKVTEMMKKFCAQP--WEEIKTSYAGVKB-KYLSEYCFSGTYILSLLLQGYHFTAD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    44 YAVVEDAGSTGSRIHVYHF----NQNLDLLHIGKGVEYYNKITPGLSSYANNPEQAAKSL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       100 IPLLEQAEDVVPDDLQPKTPVRLGATAGLRLLNGDASE---KILQSVRDMLSNRSTFNVQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        157 PDAVSIIDGIQEGSYLWVTVNYALGNLGKK-----YTKTVGVIDLGGGSVQMA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            253 AÈILKLTPRSPNPCLLAGFNGIYTYSG-----EEFKAT-----AYTSGANFNKCKNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          11 YGIVLDAGSSHTSLYIYKWPAEKENDTGVVH---QVEECRVKGPGISKFVQKVNEIGIYL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        291 ILELFNTSY-CPYSQCAFNGIFLPPLQGDFG-----AFSAFYFVMKFLNLTSEK---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    88;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 16.0%; Score 374; DB 2; Length 45
Best Local Similarity 25.6%; Pred. No. 1.6e-22;
Matches 116; Conservative 80; Mismatches 169; Indels
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                                                                                                                                                                                                                                                                               --RQLHTAKKIDNKELGWCLGASLSM 540
                                                                                                                                                                                                                                                     SWEHIHFIGKIOGSDAGWTLGYMLNL 420
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A;Cross-references: UNIPROT: Q9UT35; EMBL:AL121741; PIDN:CAB57338.1; GSPDB:GN00066; SPDB:A;Experimental source: strain 972h-; cosmid c824
C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          440
                                                                                                                                                                                                                                                                         ---PDNALQFRLYGKDYNVYTHSFLCYGKDQALW 225
                                                                                                                                                                                                                                                                                                   FVPQ----NQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEIL 240
                                                                                                                                              161
                                                                                                                                                                                                                                                                                                                                                        Q---KLAKDIQVASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIG 282
                                                                                                                                                                                                                                                                                                                                                                                                                                           NYQQCHQSILBLFN----TSYC--PYSQCAFNGIFLP--PLQG-DFGAFSAFYFVMKFLN 333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   68 IDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSN-YPFDF- 125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DPLLDYAMENVPEEYRRCSPIAVKATAG---LRLTGESEAKAILKSVRQHLENDYPFPIV 244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      126 -QGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGASTQVT 184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            245 KDGVSILEGSMEGIYAWITINYLLGTLGGKA-----THSTVAVMDLGGASTQLV 293
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            probable guanoside-diphosphatase - fission yeast (Schizosaccharomyces pombe) C;Species: Schizosaccharomyces pombe C;Species: Schizosaccharomyces pombe C;Species: Schizosaccharomyces pombe C;Species: Schizosaccharomyces pombe C;Saccession: T3109 #sequence_revision 03-Dec-1999 #text_change 09-Jul-2004 R;Barrell, B.G.; Rajandream, M.A.; Quail, M.; Seegar, K.; Harris, D. A;Barrell, B.G.; Rajandream, M.A.; Quail, M.; Seegar, K.; Harris, D. A;Beference number: 221828 A;Accession: T3109 A;Accession: T3109 A;Accession: T3109 A;Accession: preliminary; translated from GB/EMBL/DDBJ
                                       TSMQVLKEHIRIIEGKWEGIYSWIAVNYALGKFNKTATLDFPGTSPAHARQKTVGMIDMG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         381 GLGGQYDAENIAKKTQQYCSKRWSTIQAESKKQLYPRADEERLRTQCFKSAWITSVLHDG
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                                                                                                  YLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSN----
                                                                                                                                                                                   --YPFDFQGARIITGQEEGAYGWITINYLLGKFSQ-KTRWFSIVPYETNNQETFGALDLG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             16.3%; Score 381.5; DB 2; Length 27.1%; Pred. No. 5.1e-23; ive 71; Mismatches 181; Indels
                                                                                                                                                                                                                                                                       GASTQVTF-VPQNQTIES-
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121; Conservative
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Best Local Si
Matches 121;
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hypothetical protein T18B16.150
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A; Residues: 1-479 <WIL>
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                                                                                                                                                                                                                                                                    A;Molecule type: DNA
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Best Local Simi
Matches 104;
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apyrase (EC 3.6.1.5) precursor - potato

N;Alternate names: adenylpyrophosphatase; ATP-diphosphohydrolase
C;Species: Solamum tuberosum (potato)
C;Date: 10-May-1996 #sequence_revision 19-Jul-1996 #text_change 09-Jul-2004
C;Accession: JC4616; PC4147
R;Handa, M.; Guidotti, G.
Biochem. Blophys. Res. Commun. 218, 916-923, 1996
A;Title: Purification and cloning of a soluble ATP-diphosphohydrolase (Apyrase) from pot
A;Reference number: JC4616; MJID:96188985; PMID:8579614
A;Recession: JC4616
A;Molecule type: mRNA
A;Residues: 1-454 <-HAN>
A;Molecule type: mRNA
A;Residues: 1-454 <-HAN>
A;Molecule type: protein
A;Accession: PC4147
A;Molecule type: protein
A;Accession: PC4147
A;Molecule type: protein
A;Residues: 59-95;96-131;132-160;236-253;332-345 <-HA2>
A;Residues: 29-95;96-131;132-160;236-253;332-345 <-HA2>
A;Residues: Dibers
A;Rocession: tubers
A;Note: The authors translated the codon GCA for residue 215 as Gly
C;Comment: This enzyme belongs to a family of B-type ATPases, and it catalyzes the hydroentyme has nucleotide substrate specificity, divalent cation requirement, and insensiti
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Olved in starch synthesis.
C;Genetics:
C;Genetics:
C;Genetics:
C;Genetics:
C;Genetics:
C;Genetics:
C;Genetics:
C;Genetics:
C;Superfamily: nucleoside triphosphatase chromatin-associated
C;Superfamily: nucleoside triphosphatase; transmembrane protein
C;Reywords: glycoprotein; hydrolase; transmembrane protein
F;1-30/Domain: transmembrane #status predicted <NMM->
F;1-30/Domain: transmembrane #status predicted <NMM->
F;31-454/Product: ATP-diphosphohydrolase #status predicted <NMT->
F;44-65/Region: actin-heat shock protein 70-hexokinase beta-phosphate binding
F;192-212/Region: actin-heat shock protein 70-hexokinase gamma-phosphate binding
F;191,262/Binding site: carbohydrate (Asn) (covalent) #status predicted
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Best Local Similarity 24.9%
Watches 112; Conservative
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                                                                                                        S.; Borkova, D.; Ansorge, W.; Bancroft, I.; Mewes,
Database, April 1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    51 PGISKFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLR-MESEELADR 109
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 138 DRSVVHLLKKLPNVNKSDLIEGKLEMKHPCLNSGYN-----GQYICSQCASSVQGGKKGK 792
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        842
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              110 VLDVVERSLSNYPFDF--QGARIITGQEEGAYGWITINY---LLGKFSQKTRWFSIVPYE 164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LNLTSEKVSQBKVTEMMKKFCAQPWBEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHF 391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            C;Species: Caenorhabditis elegans
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 09-Jul-2004
C;Accession: T23508
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               793 SGVSIKLVGAPNWGEC-----SALAKNAPCALPDGY-PRPHGQFYAVSGFFVVYRF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ----LWQKLA---KDIQVASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              --- OF BIQGIGNY QOCH OSILE LFNTSY CPYSOCAFNGIFL PPLOGDFGAFSAFYFVMKF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          165 TNNQETFGALDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQA-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 1052;
                  C.Species: Arabidopsis thaliana (mouse-ear cress)
C.Date: 30-Apr-1999 #sequence_revision 30-Apr-1999 #text_change C.Accession: T04439
R.Bevan, M.; Benes, V.; Rechmann, S.; Borkova, D.; Ansorge, W.; submitted to the Protein Sequence Database, April 1998
A;Reference number: Z15359
A;Accession: T04439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  14.2%; Score 332; DB 2; Length 10 llarity 26.9%; Pred. No. 1.4e-18; Conservative 70; Mismatches 149; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Introns: 36/3; 83/3; 189/1; 300/2; 412/3
C;Superfamily: nucleoside triphosphatase chromatin-associated
                                                                                                                                                                                                                                                            A;Residues: 1.1052 <BEV>
A;Cross-references: UNIPROT:049676; EMBL:AL021687
A;Experimental source: cultivar Columbia; BAC clone T18B16
                                                                                                                                                                                                                                                                                                                                                                                       A;Introns: 79/3; 118/3; 217/1; 295/3; 396/3; 531/2; 815/3
A;Note: T18816.150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               hypothetical protein KO8H10.4 - Caenorhabditis elegans

    Arabidopsis thaliana

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submitted to the EMBL Data Library, November 1996
A;Reference number: Z19750
A;Accession: T23508
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               14.0%; Score 328.5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               919
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            T----DKQIIIG---SGSITWTLGVAL
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ASTQVTFVPQ----KQTIESPDNALQFRLYGKDYNVYTHSFLCYG------KDQALWQKL 228
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        229 AKDIQVASNE----ILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPPQQFEIQGIG- 282
A,Map position: 5L
C,Function: hydrolase
C,Superfamily: nucleoside triphosphatase chromatin-associated
C,Seywords: glycoprotein; Golgi apparatus; hydrolase; transmembrane protein
F;10-24/Domain: transmembrane #status predicted <TWM>
F;10-24/Domain: transmembrane #status predicted <TWM>
                                                                                                                                                                                                                                                                                  89 EEHKYVIMIDAGSTGSRVHIXKFDVCTSPPTLL---DEKFDMLEPGLSSF--DTDSVGAA
                                                                                                                                                                                                                                                                                                                                                                      -YLTDCMERAREVIPRSQHQETPVYLGATAGMRLL-RMESEELADRVLDVVERSLSNYPP
                                                                                                                                                                                                                                                                                                                                                                                                                               ---DFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQE--TFGALDLGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          201 PVVEGDGVSIMGGDEEGVFAWITTNYLLGNIG------ANGPKLPTAAVFDLGG
                                                                                                                                                                                                                                                          7 ENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQKVNEIGI-
                                                                                                                                                                     Query Match
Best Local Similarity 26.8
Matches 121; Conservative
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                          19;
                                                                                                                                                                        DSLEPLLQRARKEVPHFWMEKTPITLKATAGLRLL---PGDMADDILESVEERIFNSGFF 156
                                                                                                                                                                                                                                                                                                                                                  IYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSNYPF- 123
                                                                                                                                                                                                                                 -DFQGA-RIITGQEEGAYGWITINYLLGK-FSQKTRWFSIVPYETNNQETFGALDLGGAS 180
                                                                                                                                                                                                                                                              TQVTFVPQNQTIESP----DNALQFRLYGKDYNVYTHSFLCYGKDQALWQ--KLAKDIQV 234
                                                                                                                                                                                                                                                                                                                                                                                                                                                   271 ESTHQLITSCMPEGYQ-----LTEWEYALKFWNINGSSSHSFESCYGTTKNF 317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             295 FNTSYCPYSOCAFNGIFLPPLQGDFGAFSAFYFVMKFLNL-----TSEKVSQEKVTEMM 348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     318 VESSEI-------MHLRELKGS-PVYLFSYFFDRALNSGLVKGNEGGKIELRQFKEAA 367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  KKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGS 408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILEL 294
                                                             11 YGIVLDAGSSHTSLYIYKW---PAEKENDTGVVHQVEE---CRVKGPGISKFVQKVNEIG 64
                                                                                        Gaps
                        65;
27.0%; Pred. No. 8.7e-19;
:ive 71; Mismatches 191; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      435
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                   121; Conservative
  Similarity
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Best Local
Matches 12
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143

65

Gaps

73;

13.7%; Score 320.5; DB 2; Length 26.8%; Pred. No. 4.3e-18; Live 70; Mismatches 188; Indels

123

200 178 248

guanosine-diphosphatase (EC 3.6.1.42) - yeast (Saccharomyces cerevisiae)

N;Alternate names: protein YEL042w

N;Alternate names: protein YEL042w

C;Species: Saccharomyces cerevisiae

C;Date: 21-Sep-1993 #sequence revision 18-Nov-1994 #text_change 09-Jul-2004

C;Accession: A40732; B40732; S30837; S50502

R;Abeljon, C.; Yanagiaawa, K.; Mandon, B.C.; Hausler, A.; Moremen, K.; Hirschberg, C.B.; A;Title: Guanosine diphosphatase is required for protein and sphingolipid glycosylation
A;Reference number: A40732; MUID:93308137; PMID:8391537

A;Accession: A40732.

A; Cross-references: UNIPROT: P32621; EMBL:L19560; NID:9349392; PIDN:AAA34656.1; PID:93493
A; Note: sequence extracted from NCBI backbone (NCBIN:134708, NCBIP:134711)
A; Note: B4073
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B; N A; Molecule type: DNA A; Residues: 1-518 <ABE>

A)Residues: 1-518 - 1018-A)Residues: 1-518 - 1018-A)Cross-references: EMBL:U18779; NID:g603625; PIDN:AAB65000.1; PID:g603637; MIPS:YEL042w A)Gente: SQD:GDA1 A)Gente: SQD:GDA1 A)Cross-references: SGD:S0000768; MIPS:YEL042w

Albescription: The sequence of S. cerevisiae cosmids 8199, 8334, and 9871 Albescription number: \$50491

A, Accession: S50502 A, Molecule type: DNA

356 ---NYQQCHQSILBLFN-TSYCPYSQCAFNGIFLPPL----QGDFGAFSAFYFVMKFL 332 DEPSGAQCRFLTDEILNKDAQCQSPPCSFNGVHQPSLVRTFKESNDIYIFSYFYDRTRPL 416 333 NLTSEKVSQEKVTEMMKKFC--AQPWEEIKTSYAGVKEKYLSE--YCFSGTYILSLLLQG 388 389 YHFTADSWEHIHFIGKIQGSDAGWTLGYMLNL 420 YDIPLQ--RELRTGKKİANKEIĞWCLGASLPL 505 7, 2005, 13:24:52 Search completed: March Job time: 14.5165 secs 셤 8 ઠે

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11328, Ap
                                                                  7, 2005, 12:59:32 ; Search time 21.734 Seconds (without alignments) 1751.679 Million cell updates/sec
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Sequence 4
Sequence 4
Sequence 4
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Sequence 6
Sequence 6
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GenCore version 5.1.6
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US-09-781-796C-1

US-09-57-800C-55

US-09-370-625A-38

US-09-940-016-7977

US-09-240-639-4

US-09-908-510A-4

US-10-107-660-4

US-10-107-660-4

US-10-107-660-4

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US-09-905-732B-4

US-09-905-732B-4

US-09-905-743B-1

US-09-905-743B-1

US-09-905-744B-13

US-09-905-744B-13

US-09-905-743B-13

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Maximum Match 100%
Listing first 45 summaries
                                             protein search, using sw model
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28 604 22.4 154 4 US-10-107-576-14 Sequence 14, Appl 30 604 22.4 154 4 US-09-905-732B-14 Sequence 14, Appl 31 442.5 16.4 153 3 US-09-905-743B-14 Sequence 14, Appl 32.4 154 4 US-09-905-743B-14 Sequence 15, Appl 33 442.5 16.4 153 4 US-09-905-744B-15 Sequence 15, Appl 34 442.5 16.4 153 4 US-09-905-744B-15 Sequence 15, Appl 34 442.5 16.4 153 4 US-09-905-744B-15 Sequence 15, Appl 36 442.5 16.4 153 4 US-09-905-732B-15 Sequence 15, Appl 37 442.5 16.4 153 4 US-09-905-732B-15 Sequence 15, Appl 37 442.5 16.4 153 4 US-09-905-732B-15 Sequence 15, Appl 42.7 15.8 462 4 US-09-5129-112-2 Sequence 2, Appl 42.7 15.8 462 4 US-09-129-112-2 Sequence 16, Appl 417.5 15.5 150 4 US-09-908-5104-16 Sequence 16, Appl 417.5 15.5 150 4 US-09-908-744B-16 Sequence 16, Appl 417.5 15.5 150 4 US-09-908-744B-16 Sequence 16, Appl 417.5 15.5 150 4 US-09-905-744B-16 Sequence 16, Appl 417.5 15.5 150 4 US-09-908-744B-16 Sequence 16, Appl 417.5 15.5 150 4 US-09-905-744B-16 Sequence 16, Appl 417.5 15.5 150 4 US-09-905-744B-16 Sequence 16, Appl 417.5 15.5 150 4 US-09-905-744B-16 Sequence 16, Appl 417.5 15.5 150 4 US-10-107-576-16 Sequen
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                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 100.0%; Score 2698; DB 3; Length Best Local Similarity 100.0%; Pred. No. 5.8e-277; Matches 510; Conservative 0; Mismatches 0; Indels
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ORGANISM: Unknown
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61 SIXIYKWPAEKENDTGVVHQVECRVKGPGISKFVQKVNEIGIYLTDCMERAREVIPRSQ 120
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361 SAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYIL
                                                                                                                                  SLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLNIWHIPAEQPLSTPLSHSTYVFL
                             361 SAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYIL
                                                                                                  SLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLNLTNMIPAEQPLSTPLSHSTYVFL
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APPLICANT: MALGOO, JULIO
APPLICANT: Wallero, Julio
APPLICANT: Yeung, George
TITLE OF INVENTION: Methode and Materials Relating to CD39-Like
TITLE OF INVENTION: Methode and Materials Relating to CD39-Like
TITLE OF INVENTION: POlypeptides
FILE REFERENCE: 28110/36457
CURRENT APPLICATION NUMBER: US/09/57,800C
CURRENT FILING DATE: 2000-01-11
PRIOR APPLICATION NUMBER: 09/481,28
PRIOR APPLICATION NUMBER: 09/370,265
PRIOR FILING DATE: 1999-07-09
PRIOR FILING DATE: 1999-07-09
PRIOR PLING DATE: 1999-07-09
PRIOR APPLICATION NUMBER: 09/12449
PRIOR APPLICATION NUMBER: 09/12449
PRIOR APPLICATION NUMBER: 09/12449
PRIOR APPLICATION NUMBER: 09/12449
PRIOR APPLICATION NUMBER: 09/12449
PRIOR APPLICATION NUMBER: 09/12449
PRIOR PLING DATE: 1999-07-16
PRIOR PLING DATE: 1999-07-16
PRIOR PLING DATE: 1999-07-16
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PRIOR PLING DATE: 1999-07-16
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                                                                                                                                                                                                       MVLFSLVLFTVAIIGLLIFHKPSYFWKDMV 510
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CORGANISM: Homo sapiens
US-09-557-800C-55
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APPLICANT: BEAUDOIN, Jean
APPLICANT: BEAUDOIN, Jean
APPLICANT: BEAUDOIN, Jean
APPLICANT: BEAUDOIN, Jean
APPLICANT: BACH.
TITLE OF INVENTION: THEREOF AND PROCESS OF PRODUCING THEREOF BY RECOMBINANT
TITLE OF INVENTION: TECHNOLOGY
FILE REFERENCE: 92033: 90019
CURRENT APPLICATION NUMBER: US/09/781,796C
CURRENT APPLICATION NUMBER: 08/09/781,796C
CURRENT FILING DATE: 1995-04-10
PRIOR FILING DATE: 1995-04-10
PRIOR FILING DATE: 1996-04-10
PRIOR FILING DATE: 1996-04-10
PRIOR FILING DATE: 1996-02-01
PRIOR FILING DATE: 1996-02-01
NUMBER OF SEQ ID NOS: 8
SOFTWARE: PATENTIN VET. 2.1
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                                                                                                             361 SAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYIL 420
                                                                                                                                                                                     SLLLQCYHFTADSWEHIHFIGKIQCSDAGWTLGYMLNUTNMIPAEQPLSTFLSHSTYVFL 480
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                                                                                  SAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEBIKTSYAGVKEKYLSEYCFSGTYIL
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                                                                                                                                                                                                                                                                                                                  481 MVLFSLVLFTVAIIGLLIFHKPSYFWKDMV 510
                                                                                                                                                                                                                                                                                          MVLFSLVLFTVAIIGLLIFHKPSYFWKDMV 510
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TYPE: PRT
CRGANISM: Homo sapiens
US-09-781-796C-1
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PRIOR APPLICATION NUMBER: 09/240,639
PRIOR FILING DATE: 1999-01-29
NUMBER OF SEQ ID NOS: 32
SOFTWARE: PatentIn version 3.1
SEQ ID NO 4
LENGTH: 529
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                                                                                                                                                                                                                              Matches 191; Conservative
                                                                                                                                      ; ORGANISM: Homo Sapiens
US-09-908-510A-4
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US-09-905-744B-4
                                                                                                                                                                                                            Similarity
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SEQ ID NO 4
LENGTH: 529
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                                                                                                                                                                                         Query Match
Best Local
                                                                                                                      TYPE: PRT
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Patent No. 6759214
GENERAL INFORMATION:
GENERAL INFORMATION:
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Chadwick, Brian Paul
APPLICANT: Friechauf, Anna Maria
TITLE OF INVENTION: METHODS AND COMPOSITIONS RELATING TO CD39-LIKE POLYPEPTIDES AND
TITLE OF INVENTION: ACIDS
TITLE OF INVENTION ACIDS
CURRENT APPLICATION NUMBER: US/09/908,510A
CURRENT APPLICATION NUMBER: US/09/908,510A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       211 GVETTGALDLGGASTQISFVAGEKMDLNTSDIMQVSLYGYVYTLYTHSPQCYGRNBAEKK 270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   331 PSLCKEKVASIFDFKACHDQETCSFDGVYQPKIKGPFVAFAGFYYTASALNL-SGSFSLD 389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          85 RVKGPGISKFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEEL 144
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APPLICANT: Chadwick, Brian Paul
APPLICANT: Frischauf, Anna-Maria
TITLE OF INVENTION: METHODS AND COMPOSITIONS RELATING TO CD39-LIKE
TITLE OF INVENTION: POLYEPTIDES AND NUCLEIC ACIDS
FILE REFERENCE: 5598-066
CURRENT APPLICATION NUMBER: US/09/240,639
CURRENT FILING DATE: 1998-01-29
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 4
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                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 529;
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Sequence 4, Application US/09240639
Patent No. 6350447
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity 39.89
Matches 191; Conservative
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ORGANISM: Homo sapiens
                                                                                                                                                     GENERAL INFORMATION:
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US-09-908-510A-4
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COMPOSITIONS RELATING TO CD39-LIKE POLYPEPTIDES AND
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Length 529;
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Score 942.5; DB 4;
Pred. No. 1.1e-90;
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34.9%; Score 942.5; DB 4;
Best Local Similarity 39.8%; Pred. No. 1.1e-90;
Matches 191; Conservative 90; Mismatches 186;
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Sequence 4, Application US/09905744B
Fatent No. 6780410
GENERAL INFORMATION:
APPLICANT: Chadwick, Brian Paul
APPLICANT: Frischauf, Anna Maria
TITLE OF INVENTION: METHODS AND COMPOSITIONS;
TITLE OF INVENTION: ACIDS
FILE REFERENCE: 28110/36120A
CURRENT APPLICATION NUMBER: 08/09/905,744B
CURRENT FILING DATE: 2001-07-13
FRIOR APPLICATION NUMBER: 09/240,639
FRIOR APPLICATION NUMBER: 09/240,639
FRIOR APPLICATION NUMBER: 09/240,639
SPROR FILING DATE: 1999-01-29
NUMBER OF SEQ ID NOS: 32
SOFTWARE: PatentIn version 3:1
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211 GVETTGALDLGGASTQISFVAGEKMDLNTSDIMQVSLYGYVYTLYTHSFQCYGRNEAEKK 270
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Best Local Similarity 39.8*
Matches 191; Conservative
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ORGANISM: Homo Sapiens
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US-10-107-576-4
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US-10-107-576-4
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                 SIIAVIALLAVGLTQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEEC
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Fatent No. 6780977

GENERAL INFORMATION:

APPLICANT: Chadwick, Brian Paul

APPLICANT: Chadwick, Brian Paul

APPLICANT: Frischauf, Anna-Maria

TITLE OF INVENTION: METHODS AND COMPOSITIONS RELATING TO CD39-LIKE

TITLE OF INVENTION: POLYPEPTIDES AND NUCLEIC ACIDS

FILE REFERENCE: 9598-066

CURRENT APPLICATION NUMBER: US/10/107,660

CURRENT APPLICATION NUMBER: US/99/240,639

PRIOR APPLICATION NUMBER: US/99/240,639

NUMBER: OF SEQ ID NOS: 29

SOSTWARE: Patentin Ver. 2.0

SEQ ID NO 4
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ORGANISM: Homo sapiens
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US-10-107-660-4
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US-10-107-660-4
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Matches 191
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Sequence 4, Application US/10107576

Patent No. 6783959

SERVERAL INFORMATION:
GENERAL INFORMATION:
GENERAL INFORMATION:
TITLE OF INVENTION: METHODS AND COMPOSITIONS RELATING TO CD39-LIKE POLYPEPTIDES AND TITLE OF INVENTION: ACIDS
TITLE OF INVENTION: ACIDS
TITLE OF INVENTION: ACIDS
FILE REFERENCE: 28110/36120H
CURRENT APPLICATION NUMBER: US/10/107,576
CURRENT PILING DATE: 1999-01-29
PRIOR FILING DATE: 1999-01-29
NUMBER: OF SEQ ID NOS: 32
SOFTWARE: Patentin version 3.1
SEQ ID NO 4 449 321 271 FLAMLLQNSPIKNHLINPCYPRDYSISFIMGHVFDSLCTVDQRPESYNPNDVITFEGIGD 330 322 YQQCHQSILELFNTSYC-PYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQE 380 381 KVTEMMKKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFI 440 441 GKIQGSDAGWTLGYMLNLTNMIPAEQPL-STPLSHSTYVFLMVLFSLVLFTVAIIGLLIF 499 504 85 RVKGPGISKFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEEL 144 145 ADRVLDVVERSLSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETN 204 210 205 NQETFGALDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQ 264 265 KLAKDIQVA-SNEILRDPCFHPGYKKVVNVSDLYKTPCT--KRFEMTLPFQQFBIQGIGN 321 271 FLAMILQNSPTKNHLTNPCYPRDYSISFTMGHVFDSLCTVDQRPESYNPNDVITFEGTGD 330 322 YQQCHQSILELFNTSYC-PYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQE 380 381 KUTEMMKKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFI 440 92 331 PSLCKEKVASIFDFKACHDQETCSFDGVYQPKIKGPFVAFAGFYYTASALNL-SGSFSLD KLAKDIQVA-SNEILRDPCFHPGYKKVVNVSDLYKTPCT--KRFEMTLPFQQFEIQGIGN SIIAVIALLAVGLTQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEEC Gaps 13, Length 529; Indels 34.9%; Score 942.5; DB 4; 39.8%; Pred. No. 1.1e-90; iive 90; Mismatches 186;

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Sequence 6049, Application US/09949016

Batent No. 6812339

GENERAL INFORMATION:

APPLICANT: VENTER, J. Craig et al.

TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF

CURRENT APPLICATION NUMBER: 05/241,755

PRIOR APPLICATION NUMBER: 60/241,755

PRIOR FILING DATE: 2000-10-20

PRIOR FILING DATE: 2000-10-03

PRIOR FILING DATE: 2000-10-03

PRIOR FILING DATE: 2000-10-03

PRIOR FILING DATE: 2000-09-08

WUMBER OF SEQ ID NOS: 207012

SOFTWARE: FASESEQ FOR WINDOWS VERSION 4.0

SEQ ID NO 6049
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Pred. No. 1.1e-90;
                                                                                                                                                                                                     34.9%; Score 942.5; 39.8%; Pred. No. 1.1
         2001-08-06
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                                                                                                                                                                                                                                               Matches 191; Conservative
                      NUMBER OF SEQ ID NOS: 11
SOFTWARE: Patentin Ver.
SEQ ID NO 4
LENGTH: 529
                                                                                                                                ORGANISM: Homo sapiens
         CURRENT FILING DATE:
                                                                                                                                                                                                                            Similarity
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Best Local Similarity
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; ORGANISM: Human
US-09-949-016-6049
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US-09-923-304-4
                                                                                                                  TYPE: PRT
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                                                                                                                                            Sequence 4, Application US/09905732B
Sequence 4, Application US/09905732B
Batent No. 6787328
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Chadwick, Brian Paul
APPLICANT: Chadwick, Anna Maria
TITLE OF INVENTION: METHODS AND COMPOSITIONS RELATING TO CD39-LIKE POLYPEPTIDES AND FILE OF INVENTION WIMBER: US/09/905,732B
CURRENT APPLICATION NUMBER: US/09/905,732B
CURRENT FILING DATE: 2001-07-13
PRIOR APPLICATION NUMBER: 09/240,639
NUMBER OF SEQ ID NOS: 32
SOFTWARE: Patentin version 3.1
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GKIQGSDAGWTLGYMLNLTNMIPAEQPL-STPLSHSTYVFLMVLFSLVLFTVAIIGLLIF 499
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| Sequence 4, Application US/09923304
| Patent No. 6797471
| GENERAL INFORMATION:
| APPLICANT: MITH RATZ, RUTH
| APPLICANT: JIANG, FENG
| TITLE REPRENCE: UTSC:65808
| FILE REPRENCE: UTSC:65808
| CURRENT APPLICATION NUMBER: US/09/923,304
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39.8%; Pred. No. 1.1e-90;
iive 90; Mismatches 186;
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Best Local Similarity 39.89
Matches 191, Conservative
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                                                                                                            RESULT 11
US-09-905-732B-4
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US-09-923-304-4
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sequence 11328, Application US/09949016

patent No. 681239

patent No. 681239

GENERAL INFORMATION:

APPLICANT: VENTER, J. Craig et al.

TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF;

FILE REPERENCE: CLOOM 1307

CURRENT APPLICATION NUMBER: US/09/949,016

CURRENT PILING DATE: 2000-04-14

PRIOR FILING DATE: 2000-10-20

PRIOR FLING DATE: 2000-10-20

PRIOR FLING DATE: 2000-10-3

PRIOR FLING DATE: 2000-09-08

NUMBER OF SEQ ID NOS: 207012

SOFTWARE: PSEGSE for Windows Version 4.0

SEQ ID NO 11328

LENGTH: 556
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 205 NOETFGALDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQ 264
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                                                                      265 KLAKDIQVA-SNEILRDPCFHPGYKKVVNVSDLYKTPCT--KRFEMTLPFQQFEIQGIGN
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39.6%; Pred. No. 3.2e-90;
tive 90; Mismatches 187;
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Best Local Similarity 39.6%
Matches 190; Conservative
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US-09-949-016-11328
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US-09-949-016-11328
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APPLICANT: Chadwick, Brian Paul
APPLICANT: Chadwick, Brian Paul
APPLICANT: Chadwick, Brian Paul
APPLICANT: Frischauf, Anna Maria
TITLE OF INVENTION: ACIDS
TITLE OF INVENTION: ACIDS
FILE REFERENCE: 28110/36120C
CURRENT APPLICATION NUMBER: 09/240,639
PRIOR APPLICATION NUMBER: 09/240,639
PRIOR APPLICATION NUMBER: 09/240,639
PRIOR PILING DATE: 1999-01-29
NUMBER OF SEQ ID NOS: 32
SOFTWARE: Patentin version 3.1
SEQ ID NO 4
 7;
                                                                                                                          NQETFGALDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQ 264
                                                                                                                                                                                                                                                                                     211 GVETTGALDLGGASTQISFVAGEKMDLNTSDIMQVSLYGYVYTLYTHSFQCYGRNEAEKK 270
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39.8%; Pred. No. 1.1e-90;
ive 90; Mismatches 186; Indels
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90; Mismatches 186;
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Patent No. 6828423
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Best Local Similarity 39.84
Matches 191; Conservative
191; 'Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; TYPE: PRT
; ORGANISM: Homo Sapiens
US-09-905-743B-4
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US-09-905-743B-4
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⁴¹⁷ TFNSSTWNFCSONWSQLPLLLPKFDEVYARSYCFSANYIYHLFVNGYKFTEETWPQIHFE 476

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The bovine aorta (AAW04335 to AAW04338 and AAW04340) and porcine pancreatic (AAW04339) ATPDases have been partially sequenced. The sequences have been found to be highly homologous to a human lymphoid cell activation antigen designated CD39 (Maliazenski et at. (1994). J. Immunol.: 3574-3583). The complete sequences of the ATPDases types I and II have not been obtained yet. Assuming that the CD39 gene product is an ATPDase type II, the use of CD39 in the reduction of platelet aggregation and of thrombogenicity may be contemplated, as well as a process of making ATPDases using the CD39 sequence (AAT38516)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Isolated ATP di:phospho:hydrolase enzymes - have anti-haemostatic activity, useful for reducing platelet aggregation and thrombogenicity.
                                                                                                                                                                                                                                                                                                                                           ATP diphosphohydrolase, ATPDase, bovine aorta; pig pancreas, apyrase, CD39; lymphoid cell activation antigen; enzyme; platelet aggregation; thrombogenicity; anti-haemostatic.
                                                                                                                                                                                                                                                                                                                           Human lymphoid cell activation antigen CD39
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AAY70890

AAY70890

AAY70902

AAY70901

AAY70910

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                                               TINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGASTQVTFVPQNQTIESPDNALQFR
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                    Gaps
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Length 510;
                   Indels
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Score 2698; DB 2;
Pred. No. 5.2e-262;
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inflammatory or immunological stimulation of platelet sing CD39 protein with ATP disphospho:hydrolase activity, enting or alleviating thrombotic condition in mammalian
                                                                                                                                                                                                                        conditions is claimed. In particular the animal is a pig and its cells (or tissues or organs) can be used for transplantation. DNA coding for human CD39 is also useful for genetically modifying a mammalian cell to render it less susceptible to an inflammatory or immunological stimulus and platelet aggregation. The modified cells can be used to prevent or alleviate a thrombotic condition. The present sequence is that of the human CD39 protein and was disclosed in J.Immunol. 153 (8) (1994) 3574-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61 SLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQKVNEIGIYLTDCMERAREVIPRSQ
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llarity 100.0%; Pred. No. 5.2e-262;
Conservative 0; Mismatches 0;
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Gene therapy of
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useful for p
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les 510;
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                                                                                                                Claim 3;
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Sequence 510 AA;

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73. .75
                                                                                                                       (IMMV ) IMMUNEX CORP.
                                                                                                                                   2000-339644/29.
                                                                                                                                      N-PSDB; AAD00205.
                                                                                                                             Maliszewski CR,
                                                                                           WO200023459-A1
                                             Modified-site
                                                   Modified-side
                                                        Modified-site
                                                              Modified-site
                                                                    Modified-site
                                                                          Modified-site
                                                                                                            16-OCT-1998;
06-NOV-1998;
13-AUG-1999;
                            Homo sapiens.
                                                                                                      13-OCT-1999;
                                                                                                 27-APR-2000
                                     Domain
                                                                                Domain
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Soluble CD39; human; apyrame activity; platelet activation; inhibitor; unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; preclampsia; embolism; platelet-associated ischaemic disorder; thrombotic disorder; reocclusion; coagulopathy; deep venous thrombosis; DVT; pulmonary embolism; PE; thrombot formation; occlusion; stenosis; restenosis; anglogenesis; antianginal; cerebroprotective; antiarteriosclerotic; anticoagulant; cardiant; vasotropic; thrombolytic.
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227. 229
227. 229
20. 294
/note= "Asn is N-glycosylated"
/note= "Asn is N-glycosylated"
/note= "Asn is N-glycosylated"
314. 336
/note= "Asn is N-glycosylated"
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/notes "Asn is N-glycosylated" 777. 499
/label= Transmembrane domain /notes "C-terminal end"
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/label= Transmembrane d¢
/note= "N-terminal end"
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98US-0107466P.
99US-0149010P.
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The present 'sequence is the human soluble CD39 protein, a cell surface molecule, having apyrase activity. It is derived from a human B cell line comparations in the present of the molecule, having apyrase activity. It is derived from a human B cell line comparations, referred to as MP-1. Soluble CD39 is constructed by removing the N and C-terminal transmembrane domains. It retains the capacity to metabolise ATP and ADP at relevant concentrations and the ability to block and reverse ADP-induced platelet activation and constrained in including platelet aggregation. Soluble CD39 polypeptides are useful for inhibiting angiogeneesis. It is useful for the treatment of unstable angina, myocardial infarction, stroke, coronary artery disease or injury, atherosclerosis, peripheral vascular occlusion, precelampsia, embolism, platelet-associated ischaemic disorders including lung, coronary and cerebral ischaemia, thrombosis, intracardiac and venous trympheral and cerebral artery thrombosis, intracardiac and venous thrombosis, coagulopathy, deep venous thrombosis (DVF), pulmonary embolism (PE) and transient ischaemic attack. Soluble CD39 is also useful cor preventing thrombus formation or reformation, occlusion, reocclusion, stenosis or restenosis of blood vessels or stroke New soluble CD39 polypeptides having apyrase activity, useful for inhibiting angiogenesis and treating unstable angina, myocardial infarction, stroke, coronary artery disease or injury. Claim la; Fig 1; 122pp; English.

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240
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                                                                                          1 MEDTKESNVKTFCSKNILAILGFSSIJAVIALLAVGLTONKALPENVKYGIVLDAGSSHT
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                                                                        1 MEDTKESNVKTFCSKNILAILGFSSIIAVIALLAVGLTONKALPENVKYGIVLDAGSSHT
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                                      Gaps
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Length 510;
                                     Indels
Score 2698; DB 3;
Pred. No. 5.2e-262;
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/label= Transmembrane_domain
73. .75
/note= "Asn is N-glycosylated"
227. .229
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                                     0; Mismatches
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 100.08;
                  100.0%;
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                Best Local Similarity 100.
Matches 510; Conservative
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 Query Match
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CTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTSYCPYSQCAFNGIFLPPLQGDFGAF 360
TINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGASTQVTFVPQNQTIESPDNALQFR 240
                             361 SAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYIL
                                                                                           CTKRFEMTLPFQQFELQGIGNYQQCHQSILELFNTSYCPYSQCAFNGIFLPPLQGDFGAF
                                                                                                                                                         SAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYIL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  mammal suffering from unstable angina, myocardial infarction, stroke, coronary artery disease or injury, comprises administering soluble CD39 polypeptides.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Inhibiting platelet activation and recruitment, useful for treating a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
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                                                              /note= "Asn is N-glycosylated" 371. 373
/note= "Asn is N-glycosylated" 457. 459
/note= "Asn is N-glycosylated" /note= "Asn is N-glycosylated"
    /note= "Asn is N-glycosylated"
292. .294
/note= "Asn is N-glycosylated"
334. .336
                                                                                                                                                           /label= Transmembrane_domain
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98US-0107466P.
99US-0149010P.
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RES FOUND INC
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Best Local Similarity 100.
Matches 510; Conservative
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(CORR ) CORNELL
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                                                                                                                                                                                           WO200023094-A2
                     Modified-site
                                                Modified-site
                                                                                 Modified-site
                                                                                                                Modified-site
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06-NOV-1998;
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The present sequence is the human CD39 polypeptide. The present sequence or its active fragment may be administered to treat or prevent stroke in a subject susceptible to intracranial haemorrhaging or an ischaemic disorder. The CD39 polypeptide inhibits ADP-mediated platelet aggregation ralewcorte accumulation and/or ATP by increasing ADP catabolism to the subject. It is useful for treating or preventing stroke, thrombotic disorders and ischaemic disorders such as peripheral vascular disorder, pulmonary embolus, venous thrombosis, myocardial infarction, transient ischaemic attack, unstable angina, reversible ischaemic neurological deficit and sickle cell anaemia. It is also useful for treating or preventing a stroke disorder in subject undergoing heart surgery, lung surgery, spinal surgery, brain surgery, vascular surgery, abdominal surgery, or organ transplantation surgery
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              and
Treating stroke in a subject susceptible to intracranial hemorrhaging an ischemic disorder, involves administering a CD39 polypeptide which inhibits ADP-mediated platelet aggregation or leukocyte accumulation.
                                                                                                                                                                                                                                                                                                                              Human, CD39, vasotropic, cerebroprotective, haemostatic, thrombolytic,
stroke, thrombotic disorder; ischaemic disorder.
                                                                         MVLFSLVLFTVAIIGLLIFHKPSYFWKDMV 510
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                                                                                                                                                                                  AAB71917 standard; protein; 510
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                                                                                                                                                                                                                                                          (first entry)
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TINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGASTQVTFVPQNQTIESPDNALQFR 240

New enzyme polymer conjugate used for treating abnormal levels of extracellular nucleotides or platelet aggregation, graft transplant, cardiovascular disease, cancer and sepsis.

BETH ISRAEL DEACONESS MEDICAL CENT.

GEN

(GEHO) (BETH-)

19-FEB-2003; 2003WO-US004845. 20-FEB-2002; 2002US-0358303P

28-AUG-2003

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Robson SC,

Elmaleh DR,

2003-778966/73

N-PSDB; ADJ57261

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                                                                                                          SLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQKVNEIGIYLTDCMERAREVIPRSQ 120
                                                                                                                                          180
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                                                                                                                                                                                                                                                   CTKRFEMTLFFQQFEIQGIGNYQQCHQSILELFNTSYCPYSQCAFNGIFLPPLQGDFGAF 360
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                                                                                             SLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQKVNEIGIYLTDCMERAREVIPRSQ 120
                                                                                                                                                                HQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSNYPFDFQGARIITGQEEGAYGWI 180
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                                                                    MEDTKESNVKTFCSKNILAILGFSSIIAVIALLAVGLTQNKALPENVKYGIVLDAGSSHT
                                              MEDTKESNVKTFCSKNILAILGFSSIIAVIALLAVGLTQNKALPENVKYGIVLDAGSSHT
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 Length 510;
                        Indels
  Score 2698; DB 4;
Pred. No. 5.2e-262;
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100.0%;
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The invention relates to a conjugate (I) comprising an enzyme and a biodegradable polymer, where (i) enzymatic activity of the enzyme is biodegradable polymer, where (i) enzyme in the absence of the biodegradable polymer, or (ii) the half life of the enzyme is longer than that of the enzyme in the absence of the polymer. The enzyme is longer than that of the enzyme in the absence of the polymer. The enzyme is longer than that of the enzyme is longer than that of the enzyme is longer than that of the enzyme is longer than that of the conjugate activity (i) is at least 10 (preferably at least 100) times higher in the presence of the polymer. The enzyme, preferably an apyrase, especially a soluble and/or extracellular enzyme, preferably an apyrase, especially a soluble form of CD39 and catalyzes hydrolysis of nucleoside diphosphate. The conjugate can be used to treat abnormal aggregation of platelets, particularly cardiovascular disease, cancer, sepais or a disease related to graft transplant. (I) is also used for treating coronary artery disease or injury following myocardial infarction, unstable angina, atherosclerosis, pre-eclampsia, embolism, platelet associated ischaemic disorders including lung, coronary and cerebral ischaemia, reocclusion following thrombosis, thrombotic disorders, and thrombosis and coagullopathies associated with exposure to a foreign or injured tissue surface, in combination with angioplasty, cardid endarcerectomy, anastomosis of vascular grafts and chronic cardiovascular devices. The present sequence represents a human CD39
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tive 0; Mismatches 0;
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New CD-39-like polypeptides and polynucleotides, useful in chromosome and gene mapping, as molecular weight markers, as food supplements, or as anti-thrombotic or anti-tissue graft rejection agents.
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food supplement; anti-thrombotic; anti-tissue graft rejection agent;
ATP neurotransmission; ecto-ATPase activity; nucleotide triphosphatase;
                                                                                                                                  SAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYIL
               TINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGASTQVTFVPQNQTIESPDNALQFR
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NTPase; human; enzyme
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The present invention relates to a method of treating cardiovascular disease in a subject, comprising administering an II-17, II-18, 4-1BB, CD30 or OX40 antagonist. The IL-17, IL-18, 4-1BB, CD30 or OX40 antagonist are useful for treating cardiovascular disorders, e.g. (chronic immune) myocarditis, congestive heart failure, aneurysms, angina, embolism, restenosis, isochaemia or thrombocytopenic purpura present sequence is a polypeptide used in the exemplification of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 MEDIKESNVKTFCSKNILAILGFSSIIAVIALLAVGLTQNKALPENVKYGIVLDAGSSHT
SLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLNLTNMIPAEQPLSTPLSHSTYVFL
                                             SLILLOGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLNLTNMIPAEQPLSTPLSHSTYVFL
                                                                                                                                                                                                                                                                                                                           disease; IL-17; interleukin; IL-18; 4-1BB; CD30; OX40;
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                                                                                                        MVLFSLVLFTVAIIGLLIFHKPSYFWKDMV 510
                                                                                                                       Disclosure; Page 133-134; 135pp; English
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                                                                                                                                                                                                             ADL24295 standard; protein; 510
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12-AUG-2003; 2003US-0494457P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                            21-AUG-2003; 2003WO-US026354
                                                                                                                                                                                                                                                                      entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      thrombocytopenic purpura.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Burton PB, Deisher TA;
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                                                                                                                                                                                                                                                                                                                             cardiovascular
antagonist.
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                             The invention relates to novel CD39-like polypeptides (CD39-like nucleotide triphosphatase; NTPase) and nucleic acid molecules encoding such polypeptides. CD39-like polymucleotides may be used as hybridisation probes, PCR primers and in chromosome and gene mapping. Polypeptides of the invention may be used as molecular weight markers, as food supplements, in generating an antibody that specifically binds the polypeptide; as anti-thrombotic or anti-tissue graft rejection agents, or configurable and the invention are useful in modulating ecto-ATPase or brain. Sequences of the invention are useful in modulating ecto-ATPase activity and for identifying compounds that modulate ecto-ATPase activity. The present sequence is human CD39 protein, a member of the CD39-like protein family. Note: This sequence is stated to be the same as that shown as SEQ ID NO:13 in the sequence listing of the specification. However this sequence has additional residues at its ends.
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                                                                                                                                                                                                                                  100.0%; Score 2698; DB 8; Length 510; 100.0%; Pred. No. 5.2e-262;
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Matches 510; Conserv
                                                                                                                                                                                                           Sequence 510 AA;
          Example, Fig
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New isolated CD39LA polypeptide and polynucleotide, useful for preventing, treating, or ameliorating multiple sclerosis, systemic lupus erythematosus, rheumatoid arthritis, myasthenia gravis, or graft-versus-
systemic lupus erythematosus; rheumatoid arthritis; autoimmune pulmonary inflammation; Guillain-Barre syndrome; autoimmune thyroiditis; insulin dependent diabetes mellitus; myasthenia gravis; graft-versust disease; autoimmune inflammatory eye disease; allergic disorder; asthma; respiratory disorder; myeloid or lymphoid cell deficiency; periodontal disease; tooth repair process; inflammatory bowel disease; Crohn's disease; leukaemia; nervous system disorder; anticoagulant; food supplement; anti-tissue graft rejection; ATP neurotransmission; gene therapy; human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDTKESNVKTFCSKNILAILGFSSIIAVIALLAVGLTONKALPENVKYGIVLDAGSSHT
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100.0%; Pred. No. 5.2e-262;
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New antibody or its fragment that specifically binds to CD39L3 polypeptide, useful for detecting and purifying CD39L3 polypeptide, for treating leukemia, and for detecting and preventing metastatic spread of

cancerous cells.

29-JAN-1999; 99US-00240639. 13-JUL-2001; 2001US-00905589. 27-MAR-2002; 2002US-00107660

Chadwick BP, Frischauf A;

(NUVE-) NUVELO INC.

WPI; 2004-613273/59. GENBANK; S73813.

US6780977-B1 24-AUG-2004

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CD39-like protein; CD39-like nucleotide triphosphatase; NTPase; cancer; leukaemia; acute lymphocytic leukaemia; acute lymphocytic leukaemia; acute lymphocytic leukaemia; acute lymphocytic leukaemia; acute lymphocytic leukaemia; chematorid arthritis; Guillain-Barre syndrome; sclerosis; hebenatorid arthritis; Guillain-Barre syndrome; schrain dependent diabetes mellitus; myasthenia gravis; graft-versus-host disease; GVHD; allargic disorder; asthma; graft-versus-host disease; GVHD; allargic disorder; asthma; systemic inflammatory response syndrome; SIRS; Crohn's disease; systemic inflammatory response syndrome; SIRS; Crohn's disease; systemic lupus erythematosus; Myastemic parkinson's disease; Alzheimer's disease; Huntington's chorea; Wystemic lupus erythematosus; Myastemic lupus erythematosus; Wyastemic lupus erythematosus; Myastemic lupus erythematosus; Wyastemic lupus erythematosus; Myastemic lupus erythematosus; Myastemic lupus erythematosus; Wyastemic lupus erythematosus; Myastemic lupus erythematosus; Wyastemic lupus erythematosus; Wyas
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SLYIYKWPAEKENDTGVVHQVECRVKGPGISKFVQKVNEIGIYLTDCMERAEVIPRSQ
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                                                                      HQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSNYPFDFQGARI ITGQEEGAYGWI
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169. .191
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The present invention provides novel CD39-like polypeptides (CD39-like nucleotide triphosphatase; NTPase) and their encoding polynucleotides. C nucleotide triphosphatase; NTPase) and their encoding polynucleotides. C rucleotide triphosphatase; NTPase) and teletaed disorders such as acute lymphocytic leukaemia, acute myelocytic leukaemia and orbit of and chronic leukaemia, autoimmune disorders such as multiple sclerosis, c rheumatorid arthritis, Guillain-Barre syndrome, insulin dependent diabetes mellitus, myasthenia gravis and graft-versus-host disease, allergic disorders such as asthma, respiratory disorders, inflammatory disorders cuch as septic shock, systemic inflammatory tesponse syndrome (SIRS) and Crohn's disease, central and peripheral nervous system disorders such as ischaemia, Parkinson's disease, Alzheimer's disease, Huntington's chorea, systemic lupus erythematosus, human immunodeficiency virus-associated myelopathy and transverse myelopathy and nutritional disorders such as vitamin B12 deficiency, folic acid deficiency, Wernick disease, tobaccovitamin B12 deficiency, tolic acid deficiency, wernick disease, tobaccocolor and thrombolytic activity, serve as nutritional supplements and modulates ecto-ATPase activity. The invention acts as a cytostatic and modulates ecto-ATPase activity. The invention acts as a cytostatic agent and is useful in immunototherapy. The present sequence is human CD39 protein Note: This sequence is described in the specification as being the same as the human CD39 protein represented in SEQ ID NO: 13 of the constant and setuation and the constant and sequence are different.
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100.0%; Pred. No. 5.2e-262;
iive 0; Mismatches 0;
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Matches 510; Conservative
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/note= "Apyrase (ACR) III" 202. .228 /note= "Apyrase (ACR) IV"

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                                                                                                                                                                                                                                                                CD39-like protein; gene mapping; food supplement; ecto-ATPase activity; gene therapy; multiple sclerosis; rheumatoid arthritis; autoimmune thyroiditis; diabetes mellitus; myasthenia gravis; autoimmune throiditis; diabetes mellitus; myasthenia gravis; autoimmune inflammatory eye disease; osteoporosis; osteoarthritis; Alzheimer's disease; Parkinson's disease; amyotrophic lateral sclerosis; leukaemia; nervous system disorder; neuroprotective; antiarthritic; antirheumatic; antithyroid; immunosuppressive; antidiabetic; muscullar-gen; ophthalmological; osteopathic; nootropic; antiparkinsonian; cytostatic; human; CD39 protein.
CTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTSYCPYSQCAFNGIFLPPLQGDFGAF 360
                                                             SLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLNLTNMIPAEQPLSTPLSHSTYVFL 480
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New isolated CD39L4 polynucleotide, useful for preventing, treating, ameliorating multiple sclerosis, rheumatoid arthritis, diabetes, osteoporosis, Alzheimer's disease, amyotrophic lateral sclerosis, or leukemia.
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/note= ".
                                                                                                                                                                                                                                              Human CD39 protein #3
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markers, and as food supplements and for modulating ecto-ATPase activity and for identifying compounds that can be utilised for modulating ecto-ATPase activity. The invention is useful for preventing, treating or ameliorating a medical condition, e.g. multiple sclerosis, rheumatoid arthritis, autoimmune thyroiditis, diabetes mellitus, myastheria gravis, autoimmune thyroiditis, diabetes mellitus, myastheria gravis, autoimmune thyroiditis, diabetes mellitus, myastheria gravis, autoimmune thyroiditis, disease, osteoporosis, osteoarthritis, leukaemia or nervous system disorders and in gene therapy. The present sequence is the human CD39 protein. Note: This sequence is stated to be the same as that shown as SEQ ID 13 in sequence listing, however these
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SLYIYKWPAEKENDTGVVHQVECRVKGPGISKFVQKVNEIGIYLTDCMERAREVIPRSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SLYIXKWPAEKENDTGVVHQVEECRVKGPGISKFVQKVNBIGIYLTDCMERAREVIPRSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241 LYGKDYNVYTHSFLCYGKDQALMQKLAKDIQVASNEILRDPCFHPGYKKVVNVSDLYKTP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTSYCPYSQCAFNGIFLPPLQGDFGAP
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181 TINYLLGKFSOKTRWFSIVPYETNNOETFGALDLGGASTQVTFVPQNQTIESPDNALQFR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTKRFEMTLPFQQFE1QG1GNYQQCHQS1LELFNTSYCPYSQCAFNG1FLPPLQGDFGAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYIL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLNLTNMIPAEQPLSTPLSHSTYVFL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 MEDIKESNVKTFCSKNILAILGFSSIIAVIALLAVGLTQNKALPENVKYGIVLDAGSSHT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSNYPFDFQGARIITGQEEGAYGWI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGASTQVTFVPQNQTIESPDNALQFR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEILRDPCFHPGYKKVVNVSDLYKTP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SAFYFVMKELNLTSEKVSQEKVTEMMKKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYIL
                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                       Length 510;
                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                       100.0%; Score 2698; DB 8;
100.0%; Pred. No. 5.2e-262;
tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             510
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MVLFSLVLFTVAIIGLLIFHKPSYFWKDMV
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     18-NOV-2004 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                           Local Similarity
nes 510; Conserv
                                                                                                                                                                                                                                                                                 sequences differ
                                                                                                                                                                                                                                                                                                                                       Sequence 510 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WO2004074320-A2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens
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421 SLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLNLTNMIPAEQPLSTPLSHSTYVFL 480
                               New isolated CD39L3 polypeptide and polynucleotide, useful for diagnosing, preventing or treating HIV, hepatitis, multiple sclerosis, systemic lupus erythematosus, arthritis, diabetes and asthma.
                                                                                                                                                                                     CTKRFEMTLPPQQFE1QG1GNYQQCHQS1LELFNTSYCPYSQCAFNG1FLPPLQGDFGAF
                                                                                                                                                                                                                  361 SAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYIL
  TINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGASTQVTFVPQNQTIESPDNALQFR
                                                                                            LYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEILRDPCFHPGYKKVVNNSDLYKTP
                                                                                                                         LYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEILRDPCFHPGYKKVVNVSDLYKTP
                                                                                                                                                                                                                                                                               SAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYIL
                                                                                                                                                                                                                                                                                                                                                                         SLILQGYHFTADSWEHTHFIGKIQGSDAGWTLGYMLNUTNMIPAEQPLSTPLSHSTYVFL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HIV infection, hepatitis, multiple sclerosis; systemic lupus erythematosus; rheumatoid arthritis; Guillain-Barre syndrome; thyroiditis; diabetes; myasthenia gravis; graft-versus-host disease; GHVD; asthma; human; enzyme; CD39.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CD39-like protein; CD39-like nucleotide-triphosphatase; NTPase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (ACR) III"
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/note= "Apyrase region (ACR)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MVLFSLVLFTVAIIGLLIFHKPSYFWKDMV 510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               481 MVLFSLVLFTVAIIGLLIFHKPSYFWKDMV 510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note= "Apyrase region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ADR87821 standard; protein; 510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        27-MAR-2002; 2002US-00107576
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    29-JAN-1999; 99US-00240639.
13-JUL-2001; 2001US-00908510.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human CD39 protein #3.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (NUVE-) NUVELO INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENBANK; S73813.
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  181
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 13
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The invention relates to an isolated mucleic acid comprising at least 10 in the specification, or its complement. The nucleic acids encode cancers associated proteins. Also included are an expression vector comprising the spoint nucleic acid cited above, a host cell comprising the above recombinant nucleic acid cited above, a host cell comprising the above comprising at least 10 contiguous nucleotides of any of the above comprising at least 10 contiguous nucleotides of any of the above comprising at least 10 contiguous nucleotides of any of the above comprising at least 10 contiguous nucleotides of any of the above comprising trame of a CA sequence selected from any of the above complement), an isolated antibody, lor its antigen binding fragment) that binds to the above polypeptide, a pharmaceutical composition comprising the above polypeptide, a pharmaceutical composition comprising the above polypeptide, a hybridoma that produces the above antibody and a pharmaceutical composition comprising the above complement, an electron complement, an electron complement of a cancer cells in an individual, a method for delivering at herapeutic agent to cancer cells in an individual, a method for delivering a therapeutic agent to cancer cells in an individual, an electronic library comprising the above complement of a polypeptide (or their fragments), methods of concer cells in a call individual, a call individual, and electronic library comprising the above complement composition of a polypeptide in a test cell sample, and method for treating cancers and a method for inhibiting the expression of the activity of a CA protein (CAP), methods for detecting cancer activity or for a bioactive agent capable of modulate cativity of a CA protein (CAP), methods for detecting cancer and a method for inhibiting the expression of a polypeptide in a test cell sample, preventing and treating cancers, especially lymphoma and leavement. These may also be used in screening for agentence data for this patent did not form part of the printe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
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                                                                                                                                                                                                                                                                                                                                                                      New isolated cancer-associated polynucleotides and polypeptides useful for diagnosing, preventing or treating cancers, especially lymphoma and leukemia, or in screening for agents that modulate cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQKVNEIGIYLTDCMERAREVIPRSQ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100.0%; Score 2698; DB 8; Length 510; 100.0%; Pred. No. 5.2e-262;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                       Morris DW, Morris DW, Malandro MS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  claim 18; seqid 698; 310pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .,
                                                              14-MAR-2003; 2003US-003B8B38
15-APR-2003; 2003US-00417375.
13-JUN-2003; 2003US-00461B62.
15-SEP-2003; 2003US-00663431.
17-FEB-2004; 2004WO-US004730
                                                                                                                                                             15-DEC-2003; 2003US-00737318
                                                                                                                                                                                                           (SAGR-) SAGRES DISCOVERY INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                     2004-652914/63.
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                                                                                                                                                                                                                                                                                                                             N-PSDB; ABD32958
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               510;
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The invention relates to CD39-like polypeptides (CD39-like nucleotide-triphosphatese; NTPase) and their corresponding polynucleotides. The invention also relates to a method for making CD3b proteins. The methods and compositions of the invention are useful for the diagnosis, prevention and/or treatment of diseases or conditions associated with aberrant expression or activity of the CD39-like polypeptide, such as HIV infection, hepatitis, multiple sclerosis, systemic lupus erythematosus, rheumatoid arthritis, Guillain-Barre syndrome, thyroiditis, diabetes, myasthenia gravis, graft-versus-host disease (GHVD) and asthma. The present sequence is the human CD39 protein. Note: This sequence is described in the specification as being the same as the human CD39 protein represented in SEQ ID NO: 13 of the sequence listing, however the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQKVNEIGIYLTDCMERAREVIPRSQ 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         240
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLNLTNMIPAEQPLSTPLSHSTYVFL 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLNLTNMIPAEQPLSTPLSHSTYVFL 480
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                    8; 102pp; English
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The invention relates to a novel pharmaceutical composition active on angiogenesis comprising an endothelial cell nucleic acid whose expression is induced by an angiogenic factor and inhibited by an angiostatic agent or its sinduced by in angiostatic agent or its complement or fragment, a polypeptide sequence encoded by the nucleic acid or a molecule which binds to the polypeptide expression of the nucleic acid or a molecule which binds to the polypeptide sequence. The invention is used to diagnose, prognose or treat an angiogenic disorder in a mammal, particularly a human. The disorder is particularly tumor vascularization, a retinopathy, rheumatoid arthritis, crohn's disease, atherosclerosis, overy hyperstimulation, psoriasis, endometriosis associated with neovascularization, restenosis due to angioplassy, overproduction of tissue due to cicatifsation, a peripheral 120 Compositions for diagnosing, prognosing and treating anglogenic disorders including tumor vascularization and heart disease, comprise nucleic acid or polypeptide differentially expressed in anglogenesis. 9 61 vascular disease, hypertension, vascular inflammation, Raymaud disease, aneurism, arterial restenosis, thrombophlebitis, ischemia, angina, myocardial infarction, chronic heart disease, cardiac congestion or macular degeneration due to age or osteoporosis. This sequence corresponds to a protein encoded by a differentially expressed DNA used in the composition of the invention. ovary hyperstimulation; psoriasis; endometriosis; restenosis; angioplasty; cicatrisation; peripheral vascular disease; hypertension; vascular inflammation; Raynaud's disease; aneurism; thrombophlebitis; ischemia; angina; myocardial infarction; chronic heart disease; cardiac congestion; macular degeneration; osteoporosis. SLYIYKWPAEKENDIGVVHQVEECRVKGPGISKFVQKVNBIGIYLTDCMERAREVIPRSQ 2 MEDTKESNVKTFCSKNILAILGPSSIIAVIALLAVGLTQNKALPENVKYGIVLDAGSSHT SLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQKVNEIGIYLTDCMERAREVIPRSQ 1 MEDIKESNVKTPCSKNILAILGFSSIIAVIALLAVGLIQNKALPENVKYGIVLDAGSSHT retinopathy; rheumatoid arthritis; Crohn's disease; atherosclerosis; ö Indels Score 2698; DB 8; Pred. No. 5.3e-262; 0; Mismatches 0; Claim 7; SEQ ID NO 297; 424pp; French Al Mahmood S; 100.0%; ilarity 100.0%; Conservative 0 11-APR-2002; 2002FR-00004546. 04-MAR-2002; 2002FR-00002717. Colin S, Schneider C, AL MAHMOOD S. WPI; 2004-013912/02. N-PSDB; ADK60414. (GENE-) GENE SIGNAL Best Local Similarity Matches 510; Conserv Sequence 511 AA; Homo sapiens FR2836687-A1 05-SEP-2003 61 Query Match (ALMA/) a 8 _ብ እ

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The invention relates to a novel pharmaceutical composition active on angiogenesis comprising an endothelial cell nucleic acid whose expression is induced by an angiogenic factor and inhibited by an angiostatic agent or its complement or fragment, a polypeptide sequence encoded by the nucleic acid or its fragment, a molecule capable of inhibiting expression of the nucleic acid or a molecule which binds to the polypeptide sequence. The invention is used to diagnose, prognose or treat an angiogenic disorder in a mammal, particularly a human. The disorder is particularly tumor vascularization, a retinopathy, rheumatoid arthritis,
                                                   360
                                                                                                                                                                                       SLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLNLTNMIPAEQPLSTPLSHSTYVFL 480
SAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYIL 420
                                                                                                                                           SAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYIL 421
                                                                                                                                                                                                        Compositions containing nucleic acid or polypeptide differentially expressed in angiogenesis are useful to diagnose, prognose and treat angiogenic disorders including tumor vascularization and heart disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         vasotropic; antirheumatic; antiarthritic; hypotensive; antianginal; antiinflammatory; cardiant; angiogenesis inhibitor; gene therapy; angiogenesis; endochelial cell; diagnosis; tumor vascularization; retinopathy; rheumatoid arthritis; Crohn's disease; atherosclerosis; ovary hyperstimulation; psoriasis; endometriosis; restenosis; angioplasty; clearisation; peripheral vascular disease; hypertension; vascular inflammation; Raynaud's disease; aneurism; thrombophlebitis; ischemia; antina; myocardial infarction; chronic heart disease;
                                                   CTKRFEMTLPFQQFE1QG1GNYQQCHQS1LELFNTSYCPYSQCAFNG1FLPPLQGDFGAF
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          endometriosis associated with neovascularization, restenosis due to angioplasty, overproduction of tissue due to cicatrisation, a peripheral vascular disease, hypertension, vascular inflammation, Raynaud disease, aneurism, arterial restenosis, thrombophlebitis, ischemia, angina, myocardial infarction, chronic heart disease, cardiac congestion or macular degeneration due to age or osteoporosis. This sequence corresponds to a protein encoded by a differentially expressed DNA used in the composition of the invention.
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Crohn's disease, atherosclerosis, ovary hyperstimulation, psoriasis,
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1 MEDIKESNVKTFCSKNILAI......VAIIGLLIFHKPSYFWKDMV 510 US-09-835-147A-2 2698 Title: Perfect score: Sequence:

BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

283416 seqs, 96216763 residues Searched:

283416 Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0% .Maximum Match 100% Listing first 45 summaries PIR 79:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:* Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

7A19.33 protein hypothetical prote probable guanosine nucleoside triphos hypothetical prote apyrase (EC 3.6.1. hypothetical prote hypothetical prote hypothetical prote hypothetical prote hypothetical prote probable nucleotid probable nucleotid hypothetical prote RNA viral polymera hypothetical prote autolysin, N-acety hypothetical prote hypothetical prote hypothetical prote guanosine-diphosph nucleoside-triphos C4-dicarboxylase-b Mg2+ transporter h hypothetical prote lymphoid cell acti hypothetical prote beta-galactosidase ripC protein - sli Description SUMMARIES 156242 D86276 E86276 S50463 T40856 G84442 T34147 C86276 T716696 T716696 T39109 T048859 T048859 JC4616 T23508 T23508 T23508 T23508 T23508 T23508 T23508 Query Match Length DB 485 508 557 556 455 458 473 473 628 628 369 369 Score 2698 451.5 455.5 435.5 435.5 402.5 402.5 3374.5 374.5 374.5 374.5 374.5 374.5 374.5 374.5 374.5 374.5 374.5 374.5 374.5 374.5 374.5 374.5 374.5 374.5 374.5 374.5 374.5 374.5 374.5 374.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5 376.5

p60-related protei	hypothetical prote	hypothetical prote	hypothetical prote	hypothetical prote	hypothetical prote	penicillin-binding	probable histidine	hypothetical prote	chitin synthase (E	probable fimbrial	myosin I beta - bu	DNA-directed DNA p	probable permease	probable permease	hypothetical prote
AB1695	D86247	B84532	B89985	T05213	A96738	A97743	T03774	E71086	JC2314	B85725	151173	D86890	G91228	F86075	F89770
~	N	N	N	N	N	~	N	~	~	N	~	N	~	~	~
764	797	989	1509	371	392	402	494	4436	1013	883	1028	1658	461	461	591
3.7	3.7	3.7	3.7	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.5	3.5
98.5	98.5	98.5	98.5	96	97.5	97.5	97	97	96.5	96	96	96	95.5	95.5	95.5
30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45

ALIGNMENTS

_	THOOPY	
	156242 lymphoid ce	cell activation antigen - human
	C;Species: C;Date: 02-	C;Species: Homo sapiens (man) C:Date: 02-Jul-1996 #sequence revision 02-Jul-1996 #text change 09-Jul-2004
	C, Accession: I56242	
	R;Maliszewe	R;Maliszewski, C.R.; Delespesse, G.J.; Schoenborn, M.A.; Armitage, R.J.; Fanslow, W.C.; J. Trmminol 153 3574-3583 1994
	A; Title: Th	activation
	A; Reference number: A; Accession: I56242	A;Reference number: I56242; MUID:95015846; PMID:7930580 A;Accession: I56242
	A; Molecule type: mRNA	A,Status: preliminary; translated from GB/EMBL/DDBJ
	A, Residues:	
	A;Cross-rei C;Superfami	A;COSB-Televences: UNLYKUT:449961; GB:5/3813; NLI:g/65255; FIDN:AAB32152.1; FID:g/65256 C;Superfamily: nucleoside triphosphatase chromatin-associated
	Query Match	ch 100.0%; Score 2698; DB 2; Length 510;
	Jee Jee	10; Conservative 0; Mismatch
	ò	1 MEDTKESNVKTFCSKNILALLGFSSITAVIALLAVGLTQNKALPENVKYGIVLDAGSSHT 60
	qa	1 MEDTKESNVKTFCSKNILAILGFSSIIAVIALLAVGLTQNKALPENVKYGIVLDAGSSHT 60
	ò	61 SLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQKVNEIGIYLTDCMERAREVIPRSQ 120
	qa	61 SLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQKVNEIGIYLTDCMERAREVIPRSQ 120
	Ş,	121 HQETPVYLGATAGWRLLRNESEELADRVLDVVBRSLSNYPPDFQGARIITGQEEGAYGWI 180
	Db 1	121 HQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSNYPFDFQGARIITGQEEGAYGWI 180
	0,	181 TINYLLGKESQKTRWFSIVPYETNNQETFGALDLGGASTQVTFVPQNQTIESPDNALQFR 240
	Db 1	181 TINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGASTQVTFVPQNQTIESPDNALQFR 240
	δλ 5	241 LYGKDYNVYHSFLCYGKDQALMQKLAKDIQVASNEILRDPCFHPGYKKVNNVSDLYKTP 300
	Db 2	241 LYGKDYNVTHSFLCYGKDQALMQKLAKDIQVASNBILRDPCFHPGYKKVVNVSDLYKTP 300
	20	301 CTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTSYCPYSQCAFNGIFLPPLQGDFGAF 360
	Db 3	301 CTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTSYCPYSQCAFNGIFLPPLQGDFGAF 360
	, o	361 SAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYIL 420
y .	Db 3	361 SAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEBIKTSYAGVKEKYLSEYCFSGTYIL 420
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_	Db 4	421 SLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLNLTNMIPAEQPLSTPLSHSTYVFL 480

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02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004
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C;Genetics:
A;Map position: 1
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                                                                                                                                                                                                          hypothetical protein F7A19.34 [imported] - Arabidopsis thaliana C; Species: Arabidopsis thaliana (mouse-ear cress)
C; Species: Arabidopsis thaliana (mouse-ear cress)
C; Date: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004
C; Accession: D86276
R; Theologis, A.; Ecker, J.R.; Palm, C.J.; Federspiel, N.A.; Kaul, S.; White, O.; Alonso, Chin, C.W.; Chung, M.K.; Conn, L.; Conway, A.B.; Conway, A.R.; Creasy, T.H.; Dewar, K.; ansen, N.F.; Hudhes, B.; Hudrar, L.
Nature 408, 816-820, 2000
A; Authors: Hunter, J.L.; Jenkins, J.; Johnson-Hopson, C.; Khan, S.; Khaykin, E.; Kim, C. C.A.; Li, J.H.; Li, Y.; Lin, X.; Liu, S.A.; Liu, Z.A.; Luros, J.S.; Maiti, R.; Marziali, Rizzo, M.; Rooney, T.; Rowley, D. Sakano, H.
Rizzo, M.; Rooney, T.; Rowley, D. Sakano, H.; Shinn, P.; Southwick, A.M.; Sun, H.; Tallon, A; Authors: Salzberg, S.L.; Schwartz, J.R.; Shinn, P.; Southwick, A.M.; Sun, H.; Tallon, A; Authors: Salzberg, S.L.; Schwartz, J.R.; Shinn, P.; Southwick, A.M.; Sun, H.; Tallon, A; Accession: D86276
A; Accession: D86276
A; Reference number: A86141; MUID:21016719; PMID:11130712
A; Rosidues: 1-483 <a href="mailto:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:color:co
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGASTQVTFVPQNQTIESPDNALQF 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240 RLYGK-DYNVYTHSFLCYGKDQALWQKLAKDIQVASNE----ILRDPCFHPGYKKVVNVS 294
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KWPAEKEN---DTGVVHQVEECRVK-GPGISKFVQKVNEIGIYLTDCMERAREVIPRSQH
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   246 IAYGNISYTIYSHSFLDYGXDAAL-XKLLEKLQNSANSTVDGVVEDPCTPKGY----
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     71;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              19.0%; Score 511.5; DB 2; Length 30.1%; Pred. No. 1.3e-32; tive 77; Mismatches 182; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ;Genetics:
;Map position: 1
;Superfamily: nucleoside triphosphatase chromatin-associated
;Superfamily: nucleoside triphosphatase chromatin-associated
                                                             MVLFSLVLFTVAIIGLLIFHKPSYFWKDMV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     142; Conservative
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Best Local Similarity
Matches 142; Conserv
                             481
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E86276 hypothetical protein F14L17.1 - Arabidopsis thaliana C;Species: Arabidopsis thaliana (mouse-ear cress)

RESULT 3

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R;Theologis, A.; Ecker, J.R.; Palm, C.J.; Federspiel, N.A.; Kaul, S.; White, O.; Alonso, Chin, C.W.; Chung, M.K.; Conn, L.; Conway, A.B.; Conway, A.R.; Creasy, T.H.; Dewar, K.; ansen, N.F.; Hughes, B.; Huizar, L.
Nature 408, 816-820, 2000

A;Authors: Hunter, J.L.; Jenkins, J.; Johnson-Hopson, C.; Khan, S.; Khaykin, E.; Kim, C. C.A.; Li, J.H.; Li, Y.; Lin, X.; Liu, Z.A.; Luros, J.S.; Maiti, R.; Marziali, R;Zzo, M.; Rooney, T.; Rowley, D.; Sakano, H.

A;Authors: Salzberg, S.L.; Schwartz, J.R.; Shinn, P.; Southwick, A.M.; Sun, H.; Tallon, ker, M.; Wu, D.; Yu, G.; Fraser, C.M.; Venter, J.C.; Davis, R.W.

A;Title: Sequence and analysis of chromosome 1 of the plant Arabidopsis.

A;Accession: B66276

A;Status: preliminary

A;Molecule type: DNA

A;Rosidues: 1-405 <STO>

A;Cross-references: UNIPROT: Q9M977; GB:AE005172; NID: 97262666; PIDN: AAF43924.1; GSPDB:GNU
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               370 INLISEKVSQEKVTEMM---KKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQG 426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     298 FGL-GEK---EWLSEMILAGKRFCGEEWSKLKEKYPTTKDKYLHRYCFSSAYIISMLHDS 353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LDVVERSLSNYPFDFQG--ARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQ 206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               263 WOKLAKDIOVASNE-ILRDPCFHPGYKKVVNVSDLYKTPCTK------RFEMTLPF 311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          85
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A; Description: The sequence of S. cerevisiae cosmids 9537, 9581, 9495, 9867,
A; Reference number: S50433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            hypothetical protein YER005w - yeast (Saccharomyces cerevisiae)
C;Species: Saccharomyces cerevisiae
C;Date: 28-May-1993 #sequence_revision 24-Feb-1995 #text_change 09-Jul-2004
C;Accesion: S50463
R;Dietrich, F.S.
Submitted to the EMBL Data Library, December 1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               312 QQFEIQGIGNYQQCHQSILELF -- NTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              29 PGLSSYADNPEGASVSVTKLVBFAKGRIPKGKLKKSDIRLMATAGMRLLDVPVQE---QI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ETFGALDLGGASTQVTFVPQNQTIESPDNALQFRLYGK-DYNVYTHSFLCYGKDQA---L
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 405;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; Score 469.5; DB 2;
; Pred. No. 2.2e-29;
65; Mismatches 145;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      457
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31.2%;
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A,Cross-references: SGD:S0000807
A,Map position: 5R
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Best Local Similarity 31.2*
Matches 123; Conservative
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probable nucleoside triphosphatase [imported] - Arabidopsis thaliana
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: O2-Feb-2001 #sequence_revision 02-Feb-2001 #text_change 09-Jul-2004
C;Accession: 64442
R;Lin, X.; Kaul, S.; Rounsley, S.D.; Shea, T.P.; Benito, M.I.; Town, C.D.; Fujii, C.Y.;
R;Lin, X.; Kaul, S.; Rounsley, S.D.; Shea, M.; VanAken, S.E.; Umayam, L.; Tallon, L.
euss, D.; Nierman, W.C.; White, O.; Eisen, J.A.; Salzberg, S.L.; Fraser, C.M.; Venter, J.
Nature 402, 761-768, 1999
A;Tile: Sequence and analysis of chromosome 2 of the plant Arabidopsis thaliana.
A;Reference number: A84420; MUID:20083487; PMID:10617197
A;Status: preliminary
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A;Residues: 1-516 <STO>
A;Cross-references: UNIPROT:080612; GB:AE002093; NID:g3461821; PIDN:AAC32915.1; GSPDB:GN
                                                                                                                                                                                                                                                                          263
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NNPKHYGKKHLKBLLDFAAHAIPKDVHKETPVFLSATAGMRLLGVDAQ---NKILSHACR 120
                                                                SL-SNYPFDF----QGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETF 209
                                                                                                                                                 -----NALQFRLYGKDYNVYTHSFLCYGK 258
                                                                                                                                                                       DOALWOKLAKDIQVASNEI---LRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFE 315
                                                                                                                                                                                                                                                                                                                374
                                                                                                                                                                                                                                                                                                                                    264 FAGTGDLKQCLKLTYNLLNKDKPCSMDPCNFDGISIPPV--DF-ANTEFVGVSEFWYTTN 320
                                                                                                                                                                                                                                                                                                                                                                                                  EKVSQ------EKVTEMMKKFCAQPWEEI-----KTSYAGVKEKYLSEYCFSGTY 418
                                                                                                                                                                                                                                                                                                                                                                                                                                        DVFDMGGSYHFPNFYKKVDE----YCGTEWETMLSRLYNKELTPSTDENKLEKLCFKASW 376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 456
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          127 YLGATAGMRILRMESEELADRVLDVVERSL--SNYPFDFQGARIITGQEEGAYGWITINY 184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          147 RIMATAGWRILELPPQE---KILGVARRVLKSSGFLFRDEWASVISGSDEGVYAWVANF 203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    185 LLGKFSQKTRWFSIVPYETNNQETFGALDLGGASTQVTFVPQNQTIESPDNALQFRLYGK 244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                204 ALGSLG------GDPLKTTGIVELGGASAQVTFVSSEPM--PPEFSRTISFGNV 249
                                                                                                                                                                                                                                                           457 NLTN-----STYVF-LMVLFSLVLF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         27 NSKHAKSNLLLTVGSISVVLGVLFLCYSILFSGGNLRGSLRYSVVIDGGSTGTRIHVFGY
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                                                                                                                                                                                                                                                                                                                  316 IQGIGNYQQCHQSILELFNTSY-CPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   419 ILSLLLQG-------YHFTADSWEHIHFIGKIQGSDAGWTLGYML
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8 NVKTPCSKNILALLGFSSIIAVIALLAVGLTONKALPENVKYGIVLDAGSSHTSLYIYKW
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Gene: At2g02970
A;Map position: 2
C;Superfamily: nucleoside triphosphatase chromatin-associated
                                                                                                       121 YIKKNYDFDIPNCSNSIRVIDGKAEGMYGWLATNYLLKTLEEK-
                                                                                                                                                 GALDLGGASTQVTF-VPQNQTIESPD-
                                                                                                                                                 210 (
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C;Species: Schizosaccharomyces pombe
C;Species: Schizosaccharomyces pombe
C;Species: O3-bec-1999 #sequence_revision 03-bec-1999 #text_change 09-Jul-2004
C;Accession: T40856
R;Ramsperger, U.; Pohl, T.; Wood, V.; Rajandream, M.A.; Barrell, B.G.
submitted to the EMBL Data Library, October 1999
A;Reference number: Z21952
A;Reference number: Z21952
A;Reference number: Z21952
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Reference DNA
A;References: UNIPROT:Q9USP2; EMBL:AL121783; PIDN:CAB57847.1; GSPDB:GN00068; SPDB:A;Experimental source: strain 972h-; cosmid cilEl0
C;Genetics:
A;Rap Position: 3
A;Map position: 3
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                                               25;
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                                                                                                                                                                                                                                                                                                                                                                                                                       SFI;CYGKDQALWQKLAKDIQVA-----SNEILRDPCFHPGYKKVVNVSDLYKT 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ----GAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEEI----KTSYAGVKEK 407
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                                                                                                                                                                                                                                                                              124 GLCQGL-KHPAEFLVEDCSAQIQVIDGETEGLYGWLGLNYLYGHFNDYNP----EVS
                                                                                                             NQETFGALDLGGASTQVTFVPQNQ-----TIESPDNALQFRLYGKDYNVYTH
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DHFTEGFMDMGGASTQIAFAPHDSGEIARHRDDIATIFLRSVNGDLQ-----KWDVFVS
                                                                                                                                                                                                                                                                                                                                                                                                                                           ----EFKDTI----FHIAGSGNYEQCTKSIYPLLLKNMPCDDEPCLFNGVHAPRI--DFA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  46 NVKYGIVLDAGSSHTSLYIYKWP-----AEKENDTGV------VHQVEECRVK-GPGI
                                                                                                                                                                   SKFVQKVNE-IGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLD
                                                                                                                                                                                                                                                      151 VVERSLSNYPFDF-----QGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PCTKRFEMTLPFQQFEIQGIGNYQQCHQSILE-LFNTSYCPYSQCAFNGIFLPPLQGDF-
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                                               Indels 145;
      Length 630;
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    16.9%; Score 455.5; DB 2;
llarity 25.0%; Pred. No. 5.4e-28;
Conservative 103; Mismatches 170;
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Matches 144; Conservative
                       Similarity
    Query Match
Best Local Simil
Matches 139; C
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C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004
C;Date: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004
C;Date: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004
C;Date: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004
C;Date: 02-Mar-2001 #text_change 02-Mar-2001 #text_change 09-Jul-2004
Chi, C.W.; Chung, M.K.; Conn, L.; Conway, A.B.; Conway, A.R.; Khan, K.; White, O.; Alonso, N.F.; Hudhes, B.; Huizar, L.
A;Authors: Huter, J.L.; Jenkins, J.; Johnson-Hopson, C.; Khan, S.; Khaykin, E.; Kim, C.
C,A.; Li, J.H.; Li, Y.; Lin, X.; Liu, S.X.; Liu, Z.A.; Luros, J.S.; Maiti, R.; Marziali, Rizzo, M.; Wu, D.; Yu, G.; Fraser, C.M.; Venter, J.C.; Davis, R.W.
A;Authors: Salzberg, S.L.; Schwartz, J.R.; Shinn, P.; Southwick, A.M.; Sun, H.; Tallon, A;Reference and analysis of chromosome 1 of the plant Arabidopsis.
A;Accession: C86276
A;Accession: C86276
A;Actus: preliminary
A;Actus: preliminary
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A;Map position: 1
C;Superfamily: nucleoside triphosphatase chromatin-associated
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345 KYCQKDWNDIQDGFKRNEFPNADIERLGTNCFKAAWVTSVLHDG---FNVDKTKHLFQSVL 402
                                                                              178
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LOGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMM---KKFCAQPWEEIKTSYAGVKEKYL 409
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   88 SGKPVFDFGEENYASLKLSPGLSAYADNPEGVSESVTELVEFAKKRVHKGKLKKSDIRLM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      190 SQKTRWFSIVPYETNN-QETFGALDLG-----GASTQVTFVPQNQTIESPDNALQFRLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   296 LYKTPCTK-RFEMTLPFQQFEIQGIGNYQQCHQSILELF--NTSYCPYSQCAFNGIFLPP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    71 KENDIGVVHQVEECRVK-GPGISKFVQKVNEIGIYLIDCMERAREVIPRSQHQETPVYLG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GK-DYNVYTHSFLCYGKDQALWQKLAKDI-QVASNE----ILRDPCFHPGYKKVVNV-SD
                                                    -----NLTNMIPAEQPLSTPLSHSTYVFLMVLFSLVLFTVAI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      14 SKNILAILGFSSIIAVIALLAVG---LTONKALPENVKYGIVLDAGSSHTSLYIYKWPAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATAGMRLLRMESEELADRVLDVVERSLSNYPFDFQGARIITGQEEGAYGWITINYLLGKF
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                                                      KIQGSDAGWTLGYML-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A, Molecule type: DNA
A, Residues: 1-508 <STO
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RESULT 9 T16696 hypothetical protein R07B4.4 - Caenorhabditis elegans 17;

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PIDN:CAA83655.1; PID:95636
                                                                                                                                                                                                                                                                                                      -QGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGASTQVT 222
                                                                                                                                                                                                                                                                                                                                                                                               KDGVSILEGSMEGIYAWITINYLLGTLGGKA-----THSTVAVWDLGGASTQLV 293
                                                                                                                                                                                                                                                                                                                                                                                                                                                        FVPQ----NQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEIL 278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   294 FEPRPASDGESLVDGDHKYVLDYNGEQYELYQHSHLGYGLKEA--RKLIHKFVLNNAEAL 351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RD------TLPFQQFEIQGIG 320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       352 KESLELLGDSTSIIHPCLH-----LNASLTHPDSKSEASEVVFVGPSLAHLSLQCRGIA 405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   321 NYQQCHQSILELFNTSYCPYSQCAFNGIFLPPLQGDFG----AFSAFYFVMKFLNLTSE 375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              E-----KALYKDKNCPVRPCSFNGVHQPKFTETFTDSPIYLISYFYDRMISLGMPS- 456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         376 KVSQEKVTEMMKKFCAQP--WEEIKTSYAGVKE-KYLSEYCFSGTYILSLLLQGYHFTAD 432
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 91 ISKFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLD 150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        151 VVERSLSN-YPFDFQ--GARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQE 207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             uncleoside triphosphatase precursor, chromatin-associated - garden pea C;Species: Pisum sativum (garden pea) C;Species: Pisum sativum (garden pea) C;Accession: 13-Jan-1995 #text_change 09-Jul-2004 C;Accession: S65147, 848859 R;H8ieh, H.L.; Tong, C.G.; Thomas, C.; Roux, S.J. Plant Mol. Biol. 30, 135-147, 1996 A;Ftlae: Light-modulated abundance of an mRNA encoding a calmodulin-regulate A;Feference number: S65141; MUID:96197404; PMID:8616230
                                                                                                                                                                                      KYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEE--CRVKGPGISKFVQKVNBIGIYL
                                                                                                                                                                                                                                                                               TDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSN-YPFDF-
                                                                                                                                                                                                                 142 SVRDMLSNRSTFNVQPDAVSIIDGTQEGSYLWVTVNYALGNLGKK------YTK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          37 LTONKAL---PENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVH---QVEECRVKGPG
                                                                                                                                               73;
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                                                                                                      556;
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                                                                                                    Query Match
14.1%; Score 381.5; DB 2; Length Sest Local Similarity 27.1%; Pred. No. 3.4e-22;
Matches 121; Conservative 71; Mismatches 181; Indels
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C;Superfamily: nucleoside triphosphatase chromatin-associated
C;Keywords: nucleus
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                               A;Gene: SPDB:SPAC824.08
A;Map position: 1
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A; Molecule type: mRNA
A; Residues: 1-455 <HS2>
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Matches 120;
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C; Species: Caenothabditis elegans
C; Date: 20. Sep-1999 #text_change 20-Sep-1999
C; Date: 20. Sep-1999 #sequence_revision 20-Sep-1999 #text_change 20-Sep-1999
C; Accession: T16696
R; Miller, N.
submitted to the EMBL Data Library, October 1995
A; Description: The sequence of C. elegans cosmid R07E4.
A; Reference number: Z18561
A; Accession: T16696
A; Status: preliminary; translated from GB/EMBL/DDBJ
A; Molecule type: DNA
A; Mesidues: 1-557 cMIL>
A; Cross-references: EMBL: U39652; NID: g1049390; PID: g1049394; PIDN: AAA80403.1; CESP: R07E4
A; Experimental source: strain Bristol N2
C; Genetics:
A; Introns: 39/1; 67/1; 145/2; 192/1; 244/3; 317/3; 451/3; 488/2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      probable guanosine-diphosphatase - fission yeast (Schizosaccharomyces pombe)
C;Species: Schizosaccharomyces pombe
C;Species: O3-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 09-Jul-2004
C;Accession: T39109
R;Barrell, B.G.; Rajandream, M.A.; Quail, M.; Seegar, K.; Harris, D.
Submitted to the EMBL Data Library, October 1999
A;Reference number: Z21828
A;Accession: T39109
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-556 < BAR>
A;Residues: 1-556 < BAR>
A;Everimental source: strain 972h-; cosmid c824
                                                                                                                                                                                                                                                                                                                                                                                                                                   21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 69 ELIQIEPVIYDNKPVMKKISPGLSTFGTKPAQAAEYLRPLMELAERHIPBEKRPYTPVFI 128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              D----TGVVHQVEECRVK-GPGISKFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYL 128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    286 GYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFN----TSYC--P 339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301 NIHKTVTLEN------GENFVRRGTGNWNTCSNEVKKLLNPESSSEVCKAE 345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         346 AAKCYFGAVPAPSIPLSNIEMYGFSEYWYSTHDVLGLGGQYDAENIAKKTQQYCSKRWST 405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               397 I----KTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHF--IGKIQGSDAG 449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GATAGMRILLRMESEELADRVLDVVERSISN-----YPFDFQGARIITGQEEGAYGWIT 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        20 ILGFSSIIAVIALLAVGLTQNKALPENV-----KYGIVLDAGSSHTSLYIYKWPAEKEN 73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   182 INYLLGKFSQ-KTRWFSIVPYETNNQETFGALDLGGASTQVTF-VPQNQTIES----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           340 YSQCAFNGIFLP--PLQG-DFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ----PDNALQFRLYGKDYNVYTHSFLCYGKDQALWQ---KLAKDIQVASNEILRDPCFHP
                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                               96;
                                                                                                                                                                                                                                                                                                                                                                                   DB 2; Length 557;
                                                                                                                                                                                                                                                                                                                                                                               Query Match 14.7%; Score 397; DB 2; Length 55 Best Local Similarity 25.0%; Pred. No. 2e-23; Matches 133; Conservative 96; Mismatches 218; Indels
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141

Qy 489 FTVALIGLLI 498	A;Residues: 59-95;96-131;132-160;236-253;332-345 <ha2> A;Residues: 59-95;96-131;132-160;236-253;332-345 <ha2> A;Residues: 59-95;96-131;132-160;236-253;332-345 <ha2> A;Residues: 59-95;96-131;132-160;236-253;332-345 <ha2> A;Residues: 69-196-196-196-196-196-196-196-196-196-1</ha2></ha2></ha2></ha2>	Query Match 12.7%; Score 341.5; DB 2; Length 454; Best Local Similarity 24.6%; Pred. No. 3.8e-19; Match 21.7%; Score 341.5; DB 2; Length 454; Best Local Similarity 24.6%; Pred. No. 3.8e-19; Matches 118; Conservative 85; Mismatches 193; Indels 83; Gaps 19; 26 IIAVIALLAVGLTQNKALPENVKGIVLDAGSSHTSLYIKWPAEKEND 74 1 1 1 1 1 1 1 1 1
CY 208 TFGALDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKD 259 190 TVGVIDLGGGSVQNAYAVSKKTAKNAPKVADGDDPYIKKVVLKGIPYDLYVHSYLHFGR- 248 CY 260 QALWQKLAKDIQVASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQ 313 249	RESULT 12 T04439 T04439 T04439 T04439 T04439 T04439 T04439 T04439 T04439 T04439 T04439 T05pecies: Arabidopsis thaliana (mouse-ear cress) C; Date: 30-Apr-1999 #text_change 09-Jul-2004 C; Accession: T04439 R; Bevan, M; Bense, V; Rechmann, S; Borkova, D; Ansorge, W; Bancroft, I; Mewes, H; Risbran, A; Bense, M; Bense, April 1998 A; Accession: T04439 A; Accession: T04439 A; Accession: T04439 A; Molecule type: DNA A; Residues: 1-1052 cBEv> A; Cross-reference; UNIPROT: 049676; EMBL: AL021687 A; Cross-reference; C; Genetics: A; Map position: 4: A; Map position: 4: A; Il8016.150 A; Note: T18B16.150	Query Match 13.0%; Score 352; DB 2; Length 1052; Best Local Similarity 26.5%; Pred, No. 1.96-19; Matches 114; Conservative 81; Mismatches 165; Indels 70; Gaps 18; Best Local Similarity 26.5%; Pred, No. 1.96-19; Matches 114; Conservative 81; Mismatches 165; Indels 70; Gaps 18; Qy

C.B.;

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416 GTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLNL 458
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Description: hydrolase C; Superfamily: nucleoside
                                                                                                                                                                                                                                                                                                                                                                                                             Molecule type: DNA
Residues: 1-518 <DIE>
                                                                                                                                                                                                                                                                                Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                                               Accession: S50502
                                                                                                                                                                                                                                                              A; Accession: S30837
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                                                                                                                                                                                                                                                                                              CESP: KO
                                                                                                        hypothetical protein K08H10.4 - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Species: Tachor, 1999 #sequence_revision 15-Oct-1999 #text_change 09-Jul-2004
C;Accession: T23508
R;Gardner, A.
submitted to the EMBL Data Library, November 1996
A;Reference number: 219750
A;Accession: T23508
A;Accession: T23508
A;Accession: T23508
A;Residues: preliminary; translated from GB/EWBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-479 <WIL>
A;Residues: 1-479 <WIL>
A;Residues: 1-479 <WIL>
A;Residues: 1-479 <WIL>
A;Generic SES-K08H10.4
A;Agene: CESP-K08H10.4
A;Map position: 5
A;Introns: 36/3; 83/3; 189/1; 300/2; 412/3
C;Superfamily: nucleoside triphosphatase chromatin-associated
                                                                                                                                                                                                                                                                                                                                                                                                                                                              21;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              KENDTGVVHQVEE---CRVKGPGISKFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVY 127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RLYGKDYNVYTHSFLCYGKDQALWQ--KLAKDIQVASNEILRDPCFHPGYKKVVNVSDLY 297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              KTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTSYCPYSQCAFNGIFLPPLQGDF 357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ----LTEWEYALKFWNINGSSSHSFESCYGTTKNFVESSEI------MHLRELKGS- 332
                                449
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 462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ASH--GMPPKVEKEIFQEVK-PGLSSFAKSPSSAADSLEPLLQRARKEVPHFMWEKTPIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LGATAGMRLLRMESEELADRVLDVVERSLSNYPF -- DFQGA-RIITGQEEGAYGWITINY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 18 LAILGFSSIIAVIALLAVGLTQNKALPENVK----YGIVLDAGSSHTSLYIYKW---PAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LLGK-FSQKTRWFSIVPYETNNQETFGALDLGGASTQVTFVPQNQTIESP----DNALQF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            YCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLNLTNMIP-AEQPLST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         388 QCLDLTYIYSLLRDGYQF--EDNQPLVLAKKIKGMEVSWGQGLAFATANEFQLTEGAIKT
                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             - yeast (Saccharomyces cerevisiae)
                                                                                                                                                                                                                                                                                                                                                                                                                                                              72;
                                                                                                                                                                                                                                                                                                                                                                                                                            Length 479;
                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 12.3%; Score 312; DB 2; Length 47
Best Local Similarity 26.1%; Pred. No. 2.3e-18;
Matches 128; Conservative 80; Mismatches 211; Indels
YCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSD-
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guanosine-diphosphatase (EC 3.6.1.42)
Alternate names: protein YEL042w
C;Species: Saccharomyces cerevisiae
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A;Molecule type: DNA
A;Residues: 1-518 <ABE>
A;Cross-treferences: UNIPROT:P32621; EMBL:L19560; NID:g349392; PIDN:AAA34656.1; PID:g3493
A;Notes sequence extracted from NCBI backbone (NCBIN:134708, NCBIP:134711)
A;Accession: B40732
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Cross-references: EMBL:U18779; NID:g603625; PIDN:AAB65000.1; PID:g603637; MIPS:YEL042w
                                                                                                                                                             sphingolipid glycosylation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C.; Wei, Y.; Taylor,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Residues: 1-518 <MUL>
A;Cross-references: GB:U18779; EMBL:L10830; NID:g603625; PIDN:AAB65000.1; PID:g603637
R;Dietrich, F.S.
                                                                                         Hirschberg,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             207
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         --KDOALWOKLAKDIOVASNE----ILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLP 310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ----QGDFGA 359
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C; Date: 21-Sep-1993 #sequence_revision 18-Nov-1994 #text_change 09-Jul-2004 C; Accession: A40732; B40732; S30837; S50502 R; Abeijon, C.; Yanagisawa, K.; Mandon, E.C.; Hausler, A.; Moremen, K.; Hirst J. Cell Biol. 122, 307-323, 1993 A; Title: Guanosine diphosphatase is required for protein and sphingolipid glab; Reference number: A40732; MUID:93308137; PMID:8391537
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C;Superfamily: nucleoside triphosphatase chromatin-associated
C;Reywords: glycoprotein; Golgi apparatus; hydrolase; transmembrane protein
F:10-24/Domain: transmembrane #status predicted <TMM>
F:41,280,335/Binding site: carbohydrate (Asn) (covalent) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                34 AVGLTQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISK
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     238 LPTAAVFDLGGGSTQIVFEPTFPINEKMVDGEHKFDLKFGDENYTLYQFSHLGYGLKEGR
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                                                                                                                                                                                                                                                                                                                                                                                                     A;Accession: B40732
A;Molecule type: protein
A;Molecule type: protein
A;Mosiduae: 125-144;238-257;276-281;366-374;399-412 <AB2>
R;Mulligam, J.T.; Dietrich, F.S.; Hennessey, K.M.; Sehl, P.; Komp,
submitted to the EMBL bata Library, February 1993
A;Reference number: S30812
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 311 FQQFEIQGIG----NYQQCHQSILELFN-TSYCPYSQCAFNGIFLPPL-
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A;Description: The sequence of S. cerevisiae cosmids 8199,
A;Reference number: S50491
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A;Map position: 5L
C;Function:
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465 LSPQVSLLHTGYDIPLQ--RELRIGKKIANKEIGWCLGASLPL 505

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Search completed: March 7, 2005, 13:24:54 Job time : 17.7384 secs

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Q90X66
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ALIGNMENTS

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TISSUE=Placenta;
MEDLINE=99332082; PubMed=10405171; DOI=10.1016/S0014-5793(99)00751-6;
MATEUMOLO M., Sakurai Y., Kokubo T., Yagi H., Makita K., Matsui T.,
Titani K., Fujimura Y., Narita N.;
"The cDNA cloning of human placental ecto-ATP diphosphohydrolases I and II.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        [1] —

SEQUENCE FROM N.A. (ISOFORM VASCULAR).

MEDLINE=95015846; PubMed=790580;

MEDLINE=95015846; PubMed=790580;

Maliszewski C.R., Delespeses G.J.T., Schoenborn M.A., Armitage R.J.,

Fanslow W.C., Nakajima T., Baker E., Sutherland G.R., Poindexter K.,

Fanslow W.C., Alpert A., Friend D., Gimpel S.D., Gayle R.B. III;

"The CD39 lymphoid cell activation antigen. Molecular cloning and
structural characterization.";
J. Immunol. 153:3574-3583(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Christoforidis S., Papamarcaki T., Galaris D., Kellner R., Tsolas O., "Purification and properties of human placental ATP diphosphohydrolase.";
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SEQUENCE OF 1-30; 49-65; 94-97; 88-93; 193-223; 245-265; 382-385 AND
399-405 (ISOFORM PLACENTAL I).
TISSUE-Placenta;
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                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDIJNE-97149443; Pubmed-8996251; Robson S.C., Kaczmarek E., Siegel J.B., Candinas D., Koziak K., Millan M., Hancock W.W., Bach F.H.; Loss of ATP diphosphohydrolase activity with endothelial cell activation.";
                                                          P49961, 900009; 0201309; Created)
01-0CT-1996 (Rel. 34, Created)
01-0CT-1996 (Rel. 34, Last sequence update)
01-0CT-1906 (Rel. 34, Last sequence update)
ECCT-1004 (Rel. 45, Last annotation update)
ECCONCleoside triphosphate diphosphohydrolase 1 (EC 3.6.1.5)
(NTPDASE1) (ECCO-ATP diphosphohydrolase) (ATPDASE)
activation antigen) (Ecco-apyrase) (CD39 antigen).
Homo sapiens (Human).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ivation.";
Exp. Med. 185:153-163(1997).
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                                   STANDARD;
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homo sapien

GO; GO:0005887; C:integral to plasma membrane; TAS.
GO; GO:0007596; P:blood coagulation; TAS.
InterPro; IPR000407; GDAl_CD39_NTPase.
PERM; PP01150; GDAl_CD39_1-1.
PROSITE; PS01289; GBAl_CD39 NTPASE; 1.
Alternative splicing; Antigen; Calcium; Direct protein sequencing; Glycoprotein; Hydrolase; Lipoprotein; Magnesium; Palmitate;

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Name=Placental I;
Isodi=P49961-1; Sequence=Displayed;
Isodi=P49961-2; Sequence=VSP_003607;
Isodi=P49961-3; Sequence=VSP_003607, VSP_003608, VSP_003609;
Isolid=P49961-3; Sequence=VSP_003607, VSP_003608, VSP_003609;
TISSUE SPECIFICITY: Expressed primarily on activated lymbhoid cells. Also expressed in endothelial tissues. The vascular isoform and the placental isoform II are present in both placenta and umbilical vein, whereas placental isoform I is present in placenta
                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE-20102721; PubMed=10636909; DOI=10.1074/jbc.275.3.2057; Koziak K., Kaczmarek E., Kittel A., Sevigny J., Blusztajn J.K., Schulte Am Esch J. II, Imai M., Guckelberger O., Goepfert C., Qawi I.,
             Makita K., Shimoyama T., Sakurai Y., Yagi H., Matsumoto M., Narita N., Sakamoto Y., Saito S., Ikeda Y., Suzuki M., Titani K., Fujimura Y.; "Placental ecto-ATP diphosphohydrolase: its structural feature distinct from CD39, localization and inhibition on shear-induced
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -1- FUNCTION: In the nervous system, could hydrolyze ATP and other nucleotides to regulate purinergic neurotransmission. Could also be implicated in the prevention of platelet aggregation. Hydrolyzes ATP and ADP equally well.
-1- CATALYTIC ACTIVITY: ATP + 2 H(2)0 = AMP + 2 phosphate.
-1- COFACTOR: Requires calcium and magnesium.
-1- SUBUNIT: Homodimer; disulfide-linked (By similarity).
-1- SUBCHIGAR LOCATION: Integral membrane protein (Potential).
-1- ALTERNATIVE PRODUCTS:
-1- ALTERNATIVE PRODUCTS:
-1- Event=Alternative splicing; Named isoforms=3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PTM: The N-terminus is blocked.
MISCELLANEOUS: Optimal pH is 7.0-7.5 with ATP as substrate and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "Palmitoylation targets CD39/endothelial ATP diphosphohydrolase to
                                                                                                                                                         MEDLINE=97115858; PubMed=8955160; DOI=10.1074/jbc.271.51.33116; Kacznarek E., Koziak K., Sevigny J., Siegel J.B., Anrather J., Beaudoin A.R., Bach F.H., Robson S.C.; "Identification and characterization of CD39/vascular ATP
                                                                                                                                                                                                                                                                                          CHARACTERIZATION.
MEDLINE=96215267; PubMed=8626624; DOI=10.1074/jbc.271.17.10391;
                                                                                                                                                                                                                                                                                                                          Wang T.F., Guidotti G.;
"CD39 is an ecto-(Ca2+,Mg2+)-apyrase.";
J. Biol. Chem. 271:9898-9901(1996).
                                                                                                                                                                                                                                     diphosphohydrolase.";
J. Biol. Chem. 271:33116-33122(1996)
                                                                                                        nt. J. Hematol. 68:297-310(1998).
MEDLINE=99062444; PubMed=9846014;
                                                                                        platelet aggregation."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Name=Vascular;
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                                                                                                                                             FUNCTION
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N-linked (GlcNAc. .) (Potential).
N-linked (GlcNAc. .) (Potential).
N-linked (GlcNAc. .) (Potential).
N-linked (GlcNAc. .) (Potential).
MEDT -> MKGTKDLTSQQ (in isoform Placental).

d (GlCNAc. . .) (Potential).
d (GlCNAc. . .) (Potential).
d (GlCNAc. . .) (Potential).
d (GlCNAc. . .) (Potential).
d (GlCNAc. . .) (Potential).

Potential. Extracellular (Potential) Cytoplasmic (Potential).

Transmembrane.

DOMAIN TRANSMEM DOMAIN TRANSMEM DOMAIN

Potential

Cytoplasmic (Potential)
N-linked (GlCNAc. .)
N-linked (GlCNAc. .)

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38 479 500 73 2227 2227 2334 371

CARBOHYD CARBOHYD CARBOHYD CARBOHYD

CARBOHYD

VARSPLIC

VASNEILRDFCFHPCYKKVVNVSDLYKT -> ASITQSRPA PFTSAPPAPTSCCFLFQIQ (in isoform Placental

FTIG=VSP 003607

299

272

VARSPLIC

Missing (In isoform Placental II) /FTId=VSP 003609. SS -> G (In Ref. 5).

/FTId=VSP 003608

300

VARSPLIC

-> 1 (111 KEI. 3). BAD87D2499649159 CRC64;

D -> K (in Ref. 4). T -> TGET (in Ref. 5). V -> Y (in Ref. 5).

58 55 162 D 208 T 248 V 57964 MW;

CONFLICT CONFLICT CONFLICT CONFLICT SEQUENCE

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                                                                                                     SLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQKVNEIGIYLTDCMERAREVIPRSQ 120
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                                                                                                                                                                          181 TINYLLGKFSOKTRWFSIVPYETNNOETFGALDLGGASTQVTFVPQNQTIESPDNALQFR 240
                                                                                                                     61 SLYIYKWPAEKENDIGVVHQVEECRVKGPGISKFVQKVNEIGIYLTDCMERAREVIPRSQ 120
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                                                     MEDIKESNVKTFCSKNILAILGFSSIIAVIALLAVGLTQNKALPENVKYGIVLDAGSSHT
                                                                    121 HQETPVYLGATAGMRLLRMESBELADRVLDVVERSLSNYPFDFQGARIITGQEEGAYGWI
                           .
0
 Length 510;
                           Indels
; Score 2698; DB 1;
; Pred. No. 1.5e-195;
0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     510
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    100.0%;
                  Best Local Similarity 100.0
Matches 510; Conservative
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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstationthe European Bioinformatics Institute. There are no restrictions on its muse by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).

EMBL; AJ133133; CAB41886.1; -. EMBL; AJ133134; CAB41887.1; -. EMBL; S73813; AAB32152.1; -. EMBL; U87967; AAB47572.1; -.

EMBL;

PIR, 156242; 156242. Genew; HGNC:3363; ENTPD1. MIM; 601752; -.

7:5-8.0 with ADP.
SIMILARITY: Belongs to the GDA1 / CD39 NTPase family.
BATABASE: NAME=PROW; NOTE=CD guide CD39 entry;
WWW="http://www.ncbi.nlm.nlm.gov/prow/cd/cd39.htm".

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TRANSMEM
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FFFFFFFF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL; AF041817; AAC83203.1; JOINED.
MGD; MG1:102805; Entpd1.
MGD; MG1:102805; Entpd1.
GO; GO:0005605; C:basal lamina; IDA.
GO; GO:0004505; C:basal lamina; IDA.
GO; GO:0004505; F:spyrase activity; IDA.
GO; GO:000186; P:G-protein coupled receptor protein signalin. . .; IDA.
GO; GO:000181; P:platelet activation; IDA.
GO; GO:0009181; P:platelet activation; IDA.
GO; GO:0009181; P:platelet activation; IDA.
InterPro; IPR000407; GDA1_CD39_NTPase.
Ffam; PF01150; GDA1_CD39_NTPASE; 1.
Antigen; Calcium; GJycoprotein; Hydrolase; Magnesium; Transmembrane.
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Could also
                                                                                                                                                                                                                                                                                                                                                                                                                                       STRAIN=129/SvJ;
MEDLINE=98399871; PubMed=9730622;
SchoLine=98399871; Jenkins N.A., Copeland N.G., Gilbert D.J.,
Gayle R.B. III, Maliasawki C.R.;
"Gene structure and chromosome location of mouse Cd39 coding for an
                                                                                                                                                                                                                                                                                           MEDLINE=95015846; PubMed=7930580; Maliszewski C.R., Delespesse G.J.T., Schoenborn M.A., Armitage R.J. Fanslow W.C., Nakajima T., Baker B., Sutherland G.R., Poindexter K. Birks C., Alpert A., Friend D., Gimpel S.D., Gayle R.B. III; "The CD39 lymphoid cell activation antigen. Molecular cloning and structural characterization.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      other
                                                                                                                                                                                                              Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Cytogenet. Cell Genet. 81:287-289(1998).

-!- FUNCTION: In the nervous system, could hydrolyze ATP and other nucleotides to regulate purinergic neurotransmission. Could a be implicated in the prevention of platelet aggregation.

Hydrolyzes ATP and ADP equally well.

-!- CATALYTIC ACTIVITY: ATP + 2 H(2)0 = AMP + 2 phosphate.

-!- COPACTOR: Requires calcium and magnesium (By similarity).

-!- COPACTOR: Requires calcium and magnesium (By similarity).

-!- SUBCELLULAR LOCATION: Integral membrane protein (Potential).
                                                                                    01-NOV-1997 (Rel. 35, Created)
01-NOV-1997 (Rel. 35, Last sequence update)
05-JUL-2004 (Rel. 44, Last annotation update)
Ectonucleoside triphosphate diphosphohydrolase 1 (EC 3.6.1.5)
(NTPDasel) (Ecto-ATP diphosphohydrolase) (ATPDase)
activation antigen) (Ecto-apyrase) (CD39 antigen).
Mame-Entpdl; Synonyms-Cd39;
Mus musculus (Mouse).
                                                            Z
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL, AF041814, AAC83203.1; JOINED.
EMBL, AF041815, AAC83203.1; JOINED.
EMBL, AF041816; AAC83203.1; JOINED.
EMBL, AF041817; AAC83203.1; JOINED.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AF041818; AAC83203.1; -. AF041812; AAC83203.1; JOINED. AF041813; AAC83203.1; JOINED.
                                                                                                                                                                                                                                                                                                                                                                                           Immunol. 153:3574-3583 (1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL; AF037366; AAB92259.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                 NCBI_TaxID=10090;
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                                                          MOUSE
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120
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241 LYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEILRDPCFHPGYKKVVNVSDLYKTP
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                                                                                                                                                                                                                                                                                                       1 MEDTKESNVKTFCSKNILAILGFSSIIAVIALLAVGLTQNKALPENVKYGIVLDAGSSHT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STRAIN=CZECH II; TISSUE=Mammary tumor; MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899; Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G., Klausner R.D., Collins F.S., Wagner L., Shemmen C.M., Schuler G.D., Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
             Extracellular (Potential).

Potential.
(Yophasmic (Potential).
N-linked (GlCNAc. .) (Potential).
N-linked (GlCNAc. .) (Potential).
N-linked (GlCNAc. .) (Potential).
N-linked (GlCNAc. .) (Potential).
N-linked (GlCNAc. .) (Potential).
N-linked (GlCNAc. .) (Potential).
N-linked (GlCNAc. .) (Potential).
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Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus.
                                                                                                                                                                                                                                                                      4,
                                                                                                                                                                                                     Pred. No. 5.4e-150; his matches 66.
                                                                                                                                                                                           8E6A6113D2E13930 CRC64;
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Last sequence update)
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                                                                                                                                                                                                                                              Best Local Similarity 76.0*
Matches 389; Conservative
                                                                                                                                                                                           57205
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Mus musculus (Mouse)
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38
449
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428
457
510 AA;
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CARBOHYD
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CARBOHYD
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092106;
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479 GLMVLFSLLLVAVAITGLFIYSKPSYFWKEAV

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Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
Raha S.S., Loquellano N.A., Peters G.U., Abramson R.D., Millahy S.J.,
Richards S.W., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
N. Nilaion D.K., Muzny D.M., Sodergren B.J., Lu X., Ginbs R.A.,
Pahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
Miting M., Madan A., Young A.C., Shevohenko Y., Bouffard G.G.,
Blakesley R.W., Touchman J.W., Green B.D., Dickson M.C.,
Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,
Krzywinski M.I., Skalska U., Smailus D.E., Schnerch A., Schein J.E.,
T. "Generation and initial analysis of more than 15,000 full-length human and mouse cDNA sequences."
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                                                                                                                                                                                                                                                                                                                                                             Submitted (UUL-2001) to the EMBL/GenBank/DDBJ databases.

EMBL; BC011278; AAH11278.1; -.

MGD; MG1:02805; Entpdl.

GO; GO:0005605; C:basdl lamina; IDA.

GO; GO:0016021; C:integral to membrane; TAS.

GO; GO:0004050; F:apyrase activity; IDA.

GO; GO:0004050; P:apyrase activity; IDA.

GO; GO:000186; P:G-protein coupled receptor protein signalin. .;

GO; GO:0001186; P:platelet activation; IDA.

GO; GO:0001181; P:purine ribonucleoside diphosphate catabolism; IDA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    57176 MW; E77BB644AE1413A0 CRC64;
                                                                                                                                                                                                                                                                             Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    77.5%; Score 2091; DB 2; 75.8%; Pred. No. 1.3e-149; ive 53; Mismatches 67;
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                                                                                                                                                                                                                                                                                                                                 STRAIN=CZECH II; TISSUE=Mammary tumor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CD39; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local Similarity 75.8 Matches 388; Conservative
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E, PS01238, G
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                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
STRAIN=CS7BL/60; TISSUE=Testis;
MEDLINE=9929233; PubMed=10349636; DOI=10.1016/S0076-6879(99)03004-9;
Carninci P., Hayashizaki Y.;
"High-efficiency full-length cDNA cloning.";
Meth. Enzymol, 303:19-44(1999).
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                                                                                                                                                                                                                                                               Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Functional annotation of a full-length mouse cDNA collection.";
                                                                 01-MAR-2003 (TrEMBLrel. 23, Created)
01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
Mus musculus adult male testis cDNA, RIKEN full-length enriched
library, clone:4921511C05 product:ectonucleoside triphosphate
diphosphohydrolase 1, full insert sequence.
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STRALNE-CS-BL/60; TISSUE-Testis;
MEDILNE-21085660; PubMed=11217851; DOI=10.1038/35055500;
RIKEN FANTOM COMSORTIUM;
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STRAIN-CS7BL/6J; TISSUE-Testis;
The FANTOM CONSOXTIUM,
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                                         PRELIMINARY;
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RESULT 4
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    Sato R., Saitoh H., Sakai C., Sakai K., Sakazume N., Sano H.,
Sasaki D., Shibata K., Shinagawa A., Shiraki T., Sogabe Y., Tagami M.,
Sasaki D., Shibata K., Shinagawa A., Shiraki T., Sogabe Y., Tagami M.,
An Tagawa A., Taya T., Yasunishi A., Muramatsu W., Taheda Y., Tanaka T.,
Tomaru A., Toya T., Yasunishi A., Muramatsu W., Hayashizaki Y.;
Submitted (JUL-2001) to the EMBL/GenBank/DDBJ databases.

EMBL; AK029512; BAC26486.1;
SR EMBL; AK029512; BAC26486.1;
SR EMBL; AK029512; BAC26486.1;
SR GO; GO:0006021; C:integral lamina; IDA.

GO; GO:0006021; C:integral to membrane; TAS.
GO; GO:0004050; F:apyrase activity; IDA.
GO; GO:0007186; P:cprotein coupled receptor protein signalin. ..; IDA.
GO; GO:000181; P:platelet activation; IDA.
GO; GO:000181; P:platelet activation; IDA.
GO; GO:000181; P:purine ribonucleoside diphosphate catabolism; IDA.
Fam: PRO1150; GDA1_CD39, INTPASE; 1.
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Loct-2001 (Rel. 40, Last sequence update)
25-OCT-2004 (Rel. 45, Last amnotation update)
Ectonucleoside triphosphate diphosphohydrolase 1 (EC 3.6.1.5)
Rytpasal) (Ecto-APP diphosphohydrolase) (APPDase) (Lymphoid cell activation antigen) (Ecto-apyrase) (CD39 antigen).
Name=Entpd1; Synonyms=Cd39;
                                                                                                                                                                                                                                        Length 539;
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                                                                                                                                                                                                                                       77.0%; Score 2077; DB 2; 75.8%; Pred. No. 1.6e-148; ive 54; Mismatches 65;
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Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia; Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Rattus.
NCBI_TaxID=10116;
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MEDLINE-SP031057; PubMed-9364414; DOI=10.1016/S0028-3908(97)00115-9;
Kegel B., Braun N., Heine P., Maliszewski C.R., Zimmermann H.;
"An ecto-ATPase and an ecto-ATP diphosphohydrolase are expressed in
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                                                                                                                                                                                                     SEQUENCE FROM N.A., AND CHARACTERIZATION.
STRAIN=Sprague-Dawley; TISSUE=Brain, and Hippocampus;
PubMed=9221928;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                   apyrase (CD39) gene.";
Brain Res. Mol. Brain Res. 47:295-302(1997).
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                SLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQKVNEIGIYLTDCMERAREVIPRSQ
                                                                                                                     HQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSNYPFDFQGARIITGQEEGAYGWI
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FUNCTION: In the nervous system, could hydrolyze ATP and other nucleotides to regulate purinergic neurotransmission. Could also
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TSSUB-Acottic endothelium;
MEDLINE=20255990; PubMed=10866813;
Lemmens R., Vanduffel L., Kittel A., Beaudoin A.R., Benrezzak O.,
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Sus.
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(Lymphoid c
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16-OCT-2001 (Rel. 40, Last sequence update)
16-OCT-2004 (Rel. 44, Last annotation update)
C5-UUL-2004 (Rel. 44 Last annotation update)
Ectonucleoside triphosphate diphosphohydrolase 1 (EC:
(NTPDasel) (Ecto-ATP diphosphohydrolase) (ATPDase)
activation antigen) (Ecto-apyrase) (CD39 antigen).
Name-ENTPD1; Synonyms-CD39;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota, Metazoa, Chordata, Craniata, Vertebrata,
Mammalia, Eutheria, Cetartiodactyla, Suina, Suidae,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STANDARD;
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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EWBL outstation the Buropean Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial
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Cytoplasmic (Potential).
N-linked (GloNAc. .) (Potential).
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InterPro; IPR00407; GDA1_CD39_NTPase.
Efan; PF001150; GDA1_CD39_1.
PROSITE; PS01238; GDA1_CD39_NTPASE; 1.
Antigen; Calcium; Direct protein sequencing; Glycoprotein; 1
                                                                                                                   noncovalent interactions. SIMILARITY: Belongs to the GDA1 / CD39 NTPase family.
                                                                                                                                                                                                                                                                                                                                                                                                       diphosphohydrolase 1 54 kDa
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Ectonucleoside triphosphate
diphosphohydrolase 1.7 KDa
Ectonucleoside triphosphate
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Magnesium; Transmembrane.
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                                                                   61 VPYETNNQETFGALDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGK 120
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WEDLINE=97115858; PubMed=8955160; DOI=10.1074/jbc.271.51.33116;

WEDLINE=97115858; PubMed=8955160; DOI=10.1074/jbc.271.51.33116;

WEDLINE=97115858; PubMed=8955160; DOI=10.1074/jbc.271.51.33116;

WEDLINE=97115858; PubMed=8955160; Siegel J.B., Anrather J.,

Beaudoin A.R., Bach F.H., Robson S.C.;

Tidentification and characterization of CD39/vascular ATP

Tidentification and characterization of CD39/vascular ATP

Tidentification and characterization of CD39/vascular ATP

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16-0CT-2001 (Rel. 40, Last sequence update)
16-0CT-2001 (Rel. 44, Last sequence update)
Ectorul-2004 (Rel. 44, Last annotation update)
Ectoruleceside triphosphate diphosphohydrolase 1 (EC 3.6.1.5)
(NTPDasel) (Ecto-ATP diphosphohydrolase) (ATPDase)
(NTPDasel) (SCTO-ATP diphosphohydrolase) (ATPDase)
Name=ENTPD1; Synonyms=CD39;
Bos taurus (Bovine).
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Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
Bovinae; Bos
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       [2]
SEQUENCE OF 97-103; 123-133; 136-140; 145-168 AND 459-471.
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TISSUE=Acrtic endothelium;
To A.S., Garcia R.L., Chang S.M., Schilling W.P.;
Submitted (MAY-1997) to the EMBL/GenBank/DDBJ databases.
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InterPro; IPR000407; GDA1_CD39_NTPase.
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Klausner R.D., Collins F.S., Wagner L. Shenmen C.M., Schuler G.D.,
Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.R., Schuler G.D.,
Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.R., Bhat N.K.,
Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.R., Bhat N.K.,
A platchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
Scheetz T.B.,
Brownstein M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
Brownstein M.J., Usdin T.B., Toobhyuki S., Carninci P., Prange C.,
A Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
Brokards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
Rachards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
Whiting M., Madan A., Young A.C., Sheckhenko Y., Bouffard G.G.,
Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
Norley W., Schmutz J., Myers R.M., Butterfield Y.S.,
Jones S.J., Marra M.A.,
Jones S.J., Marra M.A.,
The Generation and initial analysis of more than 15,000 full-length human
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CTRRFLTSLPFPELEIQGTGDFQKCQQSIRPLFNTSYCPYSRCSFDGVFLPLPQGDFAAF 359
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                                                                 SAFYFUMKFLNLTSEKUS-QEKUTEMMKKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYI
                                                                                                                            LSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLNLTNMIPAEQPLSTPLSHSTYVF
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TISSUE=Lung;
MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;
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                                                                                                                                                                                                                                                                                                                                                                                                                          Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
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Matches 372; Conservative
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Pfam; PF01150; GDA1 CD39; 1.
PROSITE; PS01238; GDA1_CD39_NTPASE; 1.
Antigen; Calcium; Direct protein sequencing; Glycoprotein; Hydrolase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 MEDTKESNVKTFCSKNILAILGFSSIIAVIALLAVGLTQNKALPENVKYGIVLDAGSSHT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GAPSAPYFVMKFLNLTSEK-VSQEKVTEMMKKFCAQPWEEIKTSYAGVKEKYLSEYCFSG
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01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
Mus musculus 10 days neonate skin CNNA, RIKEN full-length enriched
library, clone:4732419Ml6 product:ectonucleoside triphosphate
diphosphohydrolase 1, full insert sequence. (Fragment).
Name-Entpd1;
                                                                                                                                                                                       (Potential).
(Potential).
(Potential).
(Potential).
(Potential).
(Potential).
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                                                                                                                                                                                                                                                                                                                                                                                                                                             73.5%; Score 1982.5; DB 1; Length 513;
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                                                                                                         Potential.
Extracellular (Potential)
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                                                                                                                                         Potential.
Cytoplasmic (Potential).
N-linked (GloNAc...) (IN-linked 
                                                                                                                                                                                                                                                                                                                                      (in Ref. 2).
CGF (in Ref. 2).
                                                                                     Cytoplasmic (Potential)
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                                                                                                                                                                                                                                                                                                                                                                                                     58113 MW;
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37
37
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Pfam; PF01150; GDA1_
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464
513 AA;
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                                                               Magnesium;
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CONFLICT
SEQUENCE
                                     Antigen;
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War:102805, Entpd1.
GO:0005605; C:basal lamina; IDA.
GO:0005605; C:basal lamina; IDA.
GO:000650; F:apyrase activity; IDA.
GO:0006200; P:apyrase activity; IDA.
GO:0007186; P:apyrate noupled receptor protein signalin. . .; IDA.
GO:0007186; P:platelet activation; IDA.
GO:0030168; P:platelet activation; IDA.
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SQUENCE, FROM, W. M. S.

Adachi J., Aizawa K., Akimura T., Arakawa T., Bono H., Carninci P., Adachi J., Aizawa K., Hanagaki T., Hara A., Hashizume W., Hayashida K., Ewindo M., Hanagaki T., Hara A., Hashizume W., Hayashida K., Ishii Y., Itoh M., Kagawa I., Kasukawa T., A Hori F., Imotani K., Ishii Y., Itoh M., Kagawa I., Kasukawa T., Akatoh H., Kawai J., Kojima Y., Kondo S., Konno H., Kouda M., Koya S., Kurihara C., Mateuyama T., Miyazaki R., Ohno M., Ohsato N., Okazaki Y., Nishi K., Nomura K., Nimazaki R., Ohno M., Ohsato N., Okazaki Y., Saito R., Saitoh H., Sakai C., Sakai K., Sakazume N., Sano H., Sasaki D., Shihadata K., Shinagawa A., Shiraki T., Sogabe Y., Tagami M., Tomaru A., Toya T., Yasunishi A., Muramatsu M., Hayashizaki Y., Li Sumitted (JUL-2001) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  the RIKEN Genome Exploration Research Group Phase I & II Team; "Analysis of the mouse transcriptome based on functional annotation of 60,770 full-length cDNAs."; Nature 420:563-573 (2002).
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                                                                                                                                                                                                           STRAIN=C57BL/6J; TISSUB=Skin; MEDININE=99279233; PubMed=10349636; DOI=10.1016/S0076-6879(99)03004-9; Carnini P., Hayashizaki Y.; "High-efficiency full-length cDNA cloning.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STRAIN-C57BL/61; TISSUE=Skin;
MEDLINE=20530913; PubMed=11076861; DOI=10.1101/gr.152600;
Shibata K., Itoh M., Aizawa K., Nagaoka S., Sasaki N., Carninci P., Konno H., Akiyama J., Nishi K., Kitsunai T., Tashiro H., Itoh M., Sumi N., Ishii Y., Nakamura S., Hazama M., Nishine T., Harada A., Yamannoto R., Matsunnoto H., Sakaguchi S., Ikegami T., Kashiwagi K., Fujiwake S., Inoue K., Togawa W., Izawa M., Ohara E., Watshiwagi K., Yoneda Y., Ishikawa T., Ozawa K., Tanaka T., Matsuura S., Kawai J., Rishikawa T., Ozawa K., Tanaka T., Matsuura S., Kawai J., Rishika i Sequence analysis (RISA) system-384-format Genome Res. 10:1757-1771(2000).
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STAIN—CSTBL/60; TISSUB=SKin;
MEDLINE=20499374; PubMed=11042159; DOI=10.1101/gr.145100;
Carninci P., Shibata Y., Hayatsu N., Sugahara Y., Shibata K., Itoh J. Konno H., Okazaki Y., Muramatsu M., Hayashizaki Y.;
Normalization and subtraction of cap-trapper-selected cDNAs to prepare full-length cDNA libraries for rapid discovery of new genes Genome Res. 10:1617-1630(2000).
ota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
ia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STRAIN=C57BL/60; TISSUE=Skin;
MEDLINE=21085660; PubMed=11217851; DOI=10.1038/35055500;
RIKEN FANTOM Consortium;
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STRAIN-C57BL/6J; TISSUE-Skin;
The FANTOM Consortium,
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    Eukaryota; Metazoa;
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Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Amphibia, Batrachia, Anura, Mesobatrachia, Pipoidea, Pipidae;
                                                                                                                                                                                           4.
                                                                                                                                                 Length 420;
                                                                                                                                           62.8%; Score 1693; DB 2; Length 4 73.9%; Pred. No. 1.3e-119; tive 46; Mismatches 60; Indels
                                                                                                    420 AA; 47261 MW; 1369E747CD4B9CE7 CRC64;
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TISSUE=Embryo;
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Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A., Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G., Blakeeley R.W., Touchman J.W., Green E.D., Dickeon M.C., Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S., Krzywinski M.I., Skaleka U., Smailus D.E., Schnerch A., Schein J.E., "Generation and initial analysis of more than 15,000 full-length human and mouse cDNA sequences.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQKVNEIGIYLTDCMERAREVIPRSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                361 SAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYIL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SLLLOGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLNLTNMIPAEQPLSTPLSHSTYVFL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 MEDIKESNVKTFCSKNILAILGFSSIIAVIALLAVGLTQNKALPENVKYGIVLDAGSSHT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121 HQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSNYPFDFQGARIITGQEEGAYGWI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TINYLLGKFSOKTRWFSIVPYETNNOETFGALDLGGASTQVTFVPQNQTIESPDNALOFR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEILRDPCFHPGYKKVVNVSDLYKTP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTKRFEMTLPFQQFE1QG1GNYQQCHQS1LELFNTSYCPYSQCAFNG1FLPPLQGDFGAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SAYYEVMAPLALTNEOMSLDKVKETVERHCSRPWDEVKKDFPKIKEKYLSEYCFSGTYIL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Xenopus laevis (African clawed frog).
Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 508;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indela
                                                                                                                                                                                                                                                                                  Klein S., Gerhard D.S.;
Submitted (JUL-2004) to the EMBL/GenBank/DDBJ databases.
EMBL, BC076662; AAH76662.1; --
GO, GO:0016787; F:hydrolase activity; IEA.
InterPro; IPR000407; GDA1_CD39_NTPase.
Pfam; PF01150; GDA1_CD39_NTPASE; 1.
EROSITE; FS012189; GDA1_CD39, 1.
EROSITE; FS012189; GDA1_CD39; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Created)
Last sequence update)
Last annotation update)
                                                                                                                                                                               and mouse cDNA sequences.";
Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           57.5%; Score 1552; DB 2;
55.9%; Pred. No. 7.9e-109;
tive 92; Mismatches 131;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    508
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   508 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           481 MVLFSLVLFTVAIIGLLIFHKPSYFWKDMV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  || || ::| ::
WVFFSILLVCIILTCWLSFRKPKCLHKGII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             27,
27,
27,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       285; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  05-JUL-2004 (TrEMBLrel. 05-JUL-2004 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MGC80631 protein.
Name=MGC80631;
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420

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Strain-Singapore local strain; TISSUB-Embryo;

Whende-12477932; DOI-10.1073/pnas.242603899;

Strausberg R.L., Feingold B.A., Grouse L.H., Derge J.G.,

Riausner R.D., Colline F.S., Mangner L., Shenmen C.M., Schuler G.D.,

Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,

Altschul S.F., Jordan H., Moore T., Wax S.L., Rang J., Hsieh F.,

Altschul S.F., Jordan H., Moore T., Wax S.L., Rang J., Hsieh F.,

A Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

A Diatchenko L., Marusina K., Parmer A.A., Rubin G.M., Hong L.,

Stapleton M., Saares M.B., Toshiyuki S., Carninci P., Prange C.,

Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,

Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,

Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.M.,

A Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.M.,

A Hilalon D.K., Muzny D.M., Sodergen B.J., Lu X., Gibbs R.A.,

Whiting M., Madan A., Young A.C., Shevchenko Y., Boulfard G.G.,

Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,

Krzywinski M.I., Skalska U., Smailus D.E., Schnerch A., Schein J.E.,

T. "Generation and initial analysis of more than 15,000 full-length human
                                                                                                                          SLILLOGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLNLTNMIPAEQPLSTPLSHSTYVFL 480
                                                                                                                                                                                                                                                 CISNLRISTAPSFLDVKGTGNYQLCKRNVEAIFDRTRCTYSHCSFNGIFQPTLDGTFGAF
                                                                                           361 SAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYIL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2 EVKVKNPWHRPVVIFLMAVVAVGIVIMVSISVVQHKPLPQKYKYGIVLDAGSSHTSVFIY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                6 ESNVKTFCSKNILAILGFSSIIAVIALLAVGLTONKALPENVKYGIVLDAGSSHTSLYIY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Zgc:100819 protein.
Name-zgc:100819;
Brachydanio rerio (Zebrafish) (Danio rerio).
Brachydanio rerio (Zebrafish) (Caniata; Vertebrata; Euteleostomi;
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      23;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      82; Mismatches 131; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Submitted (ULL-2004) to the EMBL/GenBank/DDBJ databases. EMBL; BC078240; AAH78240.1; -... GGO, GG:0016787; F:hydrolase activity; IEA. InterPro; IRR000407; GDAL_CD39.NTPase. Pfam; PF01150; GDAL_CD39; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PROSITE; PS01238; GDA1 CD39 NTPASE; 1.
SEQUENCE 492 AA; 55507 MW; B789AB6DFC6A032B CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              25-OCT-2004 (TrEMBLrel. 28, Created)
25-OCT-2004 (TrEMBLrel. 28, Last sequence update)
25-OCT-2004 (TrEMBLrel. 28, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903 (2002)
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Director MGC Project,
                                                                                                                                                                                                                                                                                                                                481 MVLFSLVLFTVAIIGLLIFHKPSYFWKDMV 510
                                                                                                                                                                                                                                                                                                                                                                  479 MAAFSILLVCIILICWLTFRKPKCLHKGII 508
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          492 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            50.9%; Score 1373.5; 52.8%; Pred. No. 2.5e
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         and mouse cDNA sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity
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SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              _TaxID=7955;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Cyprinidae;
NCBI TaxID=7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      264;
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                                                                                                                                                              A MEDLINE=22388257; PubMed=12477912; DOI=10.1073/pnas.242603899;
A Klausher K.D., Collins E.A., Grouse L.H., Derge J.G.,
A Altschul S.F., Zeeberg B., Buctow K.H., Schaefer C.F., Bhat N.K.,
A Altschul S.F., Zeeberg B., Buctow K.H., Schaefer C.F., Bhat N.K.,
Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
A Batchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
Brownstein M.J., Usdin T.B., Tooshiyuki S., Carninci P., Frange C.,
Brownstein M.J., Usdin T.B., Tooshiyuki S., Carninci P., Frange C.,
Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunzarne P.H.,
A Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
Rachaes S., Madan A., Young A.C., Shevchenko Y., Bouifard G.G.,
Mhiting M., Madan A., Young A.C., Shevchenko Y., Bouifard G.G.,
Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
Jones S.J., Marra M.A.,
Jones S.J., Marra M.A.,
Jones S.J., Marra M.A.,
Jones S.J., Marra M.A.,
Jones S.J., Marra M.A.,
Jones S.J., Marra M.A.,
Jones S.J., Marra M.A.,
Jones S.J., Marra M.A.,
Jones S.J., Marra M.A.,
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Jones S.J., Marra M.A.,
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Jones S.J., Marra M.A.,
Jones S.J., Marra M.A.,
Jones S.J., Marra M.A.,
Jones S.J., Marra M.A.,
Jones S.J., Marra M.A.,
Jones S.J., Marra M.A.,
Jones S.J., Marra M.A.,
Jones S.J., Marra M.A.,
Jones S.J., Marra M.A.,
Jones S.J., Marra M.A.,
Jones S.J., Marra M.A.,
Jones S.J., Marra M.A.,
Jones S.J., Marra M.A.,
Jones S.J., Marra M.A.,
Jones S.J., Marra M.A.,
Jones S.J., Marra M.A.,
Jones S.J., Marra M.A.,
Jones S.J., Marra M.A.,
Jones S.J., Marra M.A.,
Jones S.J., Marra M.A.,
Jones S.J., Marra M.A.,
Jones S.J., Marra M.A.,
Jones S.J., Marra M.A.,
Jones S.J., Marra M.A.,
Jones S.J., Marra M.J.,
Jones S.J., Marra M.J.,
Jones S.J., Marra M.J.,
Jones S.J., Ma
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSNYPFDFQGARIITGQEEGAYGWI 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TINYLLGNFIQDSGWFKYMP-NFKPTGTSGALDLGGASTQITFESKKE-IESQENSLHFR 238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEILRDPCFHPGYKKVVNVSDLYKTP 300
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Klein S.L., Strausberg R.L., Wagner L., Pontius J., Clifton S.W., Richardson P.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               'Genetic and genomic tools for Xenopus research: The NIH Xenopus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5;
Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     56.7%; Score 1530; DB 2; Length 508; 55.3%; Pred. No. 3.7e-107; ive '89; Mismatches 137; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TISSUE=Spleen;
MEDLINE=22341132; PubMed=12454917; DOI=10.1002/dvdy.10174;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TISSUE-Spleen;
Klein S., Gerhard D.S.;
Klein S., Gerhard D.S.;
Klein S., Gerhard D.S.;
Submitted (JUN-2004) to the EMBL/GenBank/DDBJ databases.
EMBL; BC073267; AAH7267.1; -.
GO, GO:0016787; F:hydrolase activity; IEA.
InterPro; IPR004407; GDA1_CD39_NTPase.
InterPro; IPR01239; GDA1_CD39_1.
PROSITE; PS01238; GDA1_CD39_1.
SEQUENCE 508 AA; 57049 WW; BD205818A06C523B CRC64;
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Dev. Dyn. 225:384-391(2002).
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                                 Xenopodinae; Xenopus
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                                                             NCBI_TaxID=8355;
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241 HSYLCFGRDQILNRLLAKLAQDRLSSQVAP---VRHPCYHSGYQAILPLSSLYDSPCIHT 297
-SGQW--ILPEE---GMLVGALDLGGASTQISFVPQGPILDQ-STQVTFRLYGANYSVYT
                                                                                                                                                                                                                                                                                                                                                                                HSFLCYGKDQALWQKLAK-----DIQVASNEILRDPCFHPGYKKVVNVSDLYKTPCTKR
                                                                                                                                                                                                                                                                     305 PEMTLPPQQFEIQGIGNYQQCHQSILELFNTSYCP-YSQCAFNGIFLPPLQGDFGAFSAF
                                                                                                                                                                                                                                                                                            LOGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLNLTNMIPAEQPLSTPLSHSTYVFLMVL
                                                                                       QKTRWFSIVPYETINQETFGALDLGGASTQVTFVPQNQTIESPDNALQPRLYGKDYNVYT
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J. Biol. Chem. 272:23645-23652(1997).

I. FUNCTION: In the nervous system, could hydrolyze ATP and other nucleotides to regulate purinergic neurotransmission. Could also be implicated in the prevention of platelet aggregation. Hydrolyzes ATP and ADP equally well (By similarity).

I. CATALYTIC ATTIVITY: ATP + 2 H(2)O = AMP + 2 phosphate.
I. COFACTOR: Requires calcium and magnesium (By similarity).
I. SUBGNIT: Homodimer; disulfide-linked (Probable).
I. SUBCELLULAR LOCATION: Integral membrane protein (Potential).
I. PTM: N-glycosylated.
I. SIMILARITY: Belongs to the GDAl / CD39 NTPase family.
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Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TISSUE=8tomach;
MEDLINE=97442428; PubMed=9295305; DOI=10.1074/jbc.272.38.23645;
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MEDLINE=98298108; PubMed=9632655; DOI=10.1074/jbc.273.26.16043;
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16-OCT-2001 (Rel. 40, Last sequence update)
05-UUL-2004 (Rel. 44, Last annotation update)
Ectonucleoside triphosphate diphosphohydrolase 1 (EC 3.6.1.5)
(NTPDasel) (Ecto-ATP diphosphohydrolase) (ATPDase) (Lymphoid activation antigen) (Ecto-apyrase) (CD39 antigen).
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"Molecular cloning of the chicken oviduct ecto-ATP-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 493 AA.
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Gallus gallus (Chicken).
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                                                                                                                                                                                                  LLIQOXHFTADSWEHIHFIGKIQOSDAGWTLGYMLNLTNMIPAEQPLSTPLSHSTYVFLM
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                                                                                     VYLGATAGMRILRMESEBLADRVLDVVBRSLSNYPPDFQGARIITGQEEGAYGWITINYL
                                                                                                                                                                           LGKFSQKTRWFSIVPYETNNQETFGALDLGGASTQVTFVPQNQTIESPDNALQFRLYGKD
                                                                                                                                                                                                                                                                     YNVYTHSFLCYGKDQALWQKLAKDIQVASNE----ILRDPCFHPGYKKVVNVSDLYKTPC
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Sciurognathi; Muridae; Murinae; Mus.
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STRAIN=C57BL/6; TISSUE=Liver;
Bigonable From N.A.
Bigonable F. TISSUE=Liver;
Bigonable F. Lecka J., Robson S.C.,
Fernandes M.J.G., Seviguy J.;
Submitted (AUG-2003) to the EMBL/GenBank/DDBJ databases.
EMBL; ANS4442; AA084519-11;
GO; GO:000405; F:apyrase activity; IEA.
GO; GO:0016787; F:hydrolase activity; IEA.
InterPro.; IPRO04040; GDAL_CD39_NTPase.
PROSITE; PS01238; GDAL_CD39_NTPASE; 1.
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05-JUL-2004 (TrEMBLrel. 27, Last sequence update)
05-JUL-2004 (TrEMBLrel. 27, Last annotation update)
Nucleoside triphosphate diphosphohydrolase-8 (EC 3.6.1.5)
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Mammalia; Eutheria; Rodentia;
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         This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            186 FAGKW-----EHPQNTEVLGALDLGGASTQITFQP-GVTIEDKNTSVLFRLYGTNYSLYT 239
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91; Mismatches 176; Indels
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Extracellular (Potential).
Potential.
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                                                                                               EMBL; AF041355; AAC26491.1; -.
InterPro; IPR000407; GDA1_CD39_NTPase.
Pfam; PF01150; GDA1_CD39; 1.
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les 211; Conservative
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· 21
493 AA;
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CONFLICT
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134 MRLLRMESEELADRVLDVVERSLSNYPFDFQGARIITGQEEGAYGWITINYLLG---KFS 190
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Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         15 KNILAILGFSSIIAVIALLAVGL-TQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKEN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=21982040; PubMed=11985621;
Knowles A.F., Nagy A.K., Strobel R.S., Wu-Weis M.;
"Purification, characterization, cloning, and expression of the
chicken liver ecto-ATP-diphosphohydrolase.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 2; Length 493;
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                                                                                                                                                                                                                          Created)
Last sequence update)
Last annotation update)
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                                                                                                                                                                        493 AA
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EMBL; AF426405; AAL25086.1; -
GO; GO:0004050; F: Repyrase activity; IEA.
GO; GO:001077; F: Hydrolase activity; IEA.
Pfam; PF01150; GDA1 CD39; 1.
PROSITE; PS01238; GDA1 CD39 NTPASE; 1.
                                                                                                                                                                                                                       01-DEC-2001 (TrEMBLrel. 19, Created)
01-DEC-2001 (TrEMBLrel. 19, Last sequence
1-UUN-2003 (TrEMBLrel. 24, Last annotation
Ecto-ATP-dlphosphohydrolase (EC 3.6.1.5).
Gallus gallus (Chicken).
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LAIVAGLVAILL----QCFWK 491
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LAIVAGLVAILL----QCFWK 491
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Search completed: March 7, 2005, 13:22:43 Job time: 73.4475 secs

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March 7, 2005, 13:23:03 ; Search time 59.831 Seconds (without alignments) 2804.781 Million cell updates/sec
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2698
1 MEDTKESNVKTFCSKNILAI......VAIIGLLIFHKPSYFWKDMV 510
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Copyright (c) 1993 - 2005 Compugen Ltd.
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Maximum Match 100%
Listing first 45 summaries
                                              OM protein - protein search, using sw model
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Gapop 10.0 , Gapext 0.5
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Maximum DB seq length: 200000000
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Perfect score:
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                                                                                                                                                Sequence:
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

Description	Sequence 2. Appli	Sequence 1, Appli	Sequence 1, Appli	Sequence 30, Appl	Sequence 38, Appl	Sequence 27, Appl	Sequence 2, Appli	9	Sequence 30, Appl	29,	Sequence 28, Appl	Sequence 3, Appli	Sequence 8, Appli
SUMMARIES 1D	US-09-835-147-2	US-09-374-586-1	US-09-781-796B-1	US-10-646-308-30	US-10-092-063-38	US-09-835-147-27	US-09-374-586-2	US-09-835-147-6	US-09-835-147-30	US-09-835-147-29	US-09-835-147-28	US-09-835-147-3	US-09-835-147-8
DB	9	0	10	16	13	0	σ	0	0	σ	σ	σ	σ
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* Query Match	100.0	100.0	100.0	100.0	98.2	87.4	87.0	87.0	87.0	87.0	87.0	87.0	87.0
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US-09-835-147-2

14	2348	87.0	487	o	US-09-835-147-26	Seguence 26. Appl
15	2297	ī,	47	6	-83	equence 4.
16	4	6	49	σ	9-823-356-	4
17	9	4	52	0	9-923-304-	
18		4	4 5	13	US-10-052-586-496	4
19	940	4	45	14	US-10-174-590-496	496
20	940	4	45		US-10-176-758-496	Sequence 496, App
21	940	4	45		US-10-175-737-496	496,
22	940	4.	45	14	US-10-174-581-496	496,
23	940	4.	45	14	US-10-176-483-496	Sequence 496, App
24	940	4.	45	14	US-10-176-749-496	496,
25	940	4.	45	14	US-10-176-914-496	496
56	940	34.8	8 458	14	US-10-176-915-496	496,
27	940	4	45	14	US-10-173-706-496	496,
28	940	4.	45	14	US-10-175-738-496	496,
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32	940	4	45	14	US-10-176-913-496	496,
33	940	4.	45	14	US-10-180-552-496	4.
34	940	4.	45	14	US-10-180-557-496	496,
35	940	4.	45		-49	496,
	940		45	14	US-10-174-572-496	49
37	940	4.	45	14	US-10-174-579-496	496,
	940		45	14	174-582-49	496,
m	940	4.	45	14	US-10-174-588-496	49
40	940	4.	45	14	-10-175-739-49	496,
41	940	•	45	14	175-740-49	496,
42	940	4	45	14	US-10-175-743-496	496,
43	940	34.8	45	14	US-10-176-488-496	496,
44	940	4.	45		-10-176-492-49	,
	940	4.	45		76-747-49	49
					ALIGNMENTS	
RESULT US-09-8	147-					
; Sequence ; Patent N	equence 2, Application US atent No. US20020002277A1	oplica 200200	Application US/0983514 IS20020002277A1	098	15147	
GENER APPL	GENERAL INFORMATION APPLICANT: Maliszer	MATION: aliszewski,	wski,	Charles	18 R.	

RESULT 1

US-09-815-147-2

US-09-815-147-2

US-09-815-147-2

SEQUENCE 2, Application US/09835147

FRICH O. US20020002277A1

GENERAL INFORMATION:

APPLICANT: Maliszewski, Charles R.

APPLICANT: Gimpl. Steven D.

TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE REFERENCE: 2079-US

TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE REFERENCE: 2079-US

CURRENT PAPLICATION NUMBER: US 60/104,585

PRIOR APPLICATION NUMBER: US 60/107,466

PRIOR PELING DATE: 1998-11-06

PRIOR FILING DATE: 1999-10-13

PRIOR FILING DATE: 1999-08-13

PRIOR FILING DATE: 1999-08-13

PRIOR FILING DATE: 1999-10-13

PRIOR FILING DATE: 1999-10-13

SOFTWARE: PATENTING VET: 2.0

SEQ ID NO 2

LENGTH: SIO

LENGTH: REFERENCE: 2.0

SEQ ID NO 2

LENGTH: PRIOR PAPLICATION NUMBER: PATENTION ery Match

100.0%; Score 2698; DB 9; Length 510;

Best Local Similarity 100.0%; Pred. No. 9.9e-234;

Matches 510; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

1 MEDIKESNVKIFCSKNILAILGFSSIJAVIALLAVGLTQNKALPENVKYGIVLDAGSSHT 60

480

360 360

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Sequence 1, Application US/09781796B

| Sequence 1, Application US/09781796B
| Publication No. US20030040094A1
| GENERAL INFORMATION, Adrien R. |
| APPLICANT BAUGNY, Jean APPLICANT SVIGNY, Jean APPLICANT ROBSON, Simon |
| APPLICANT ROBSON, Simon |
| TITLE OF INVENTION: THEREOF AND PROCESS OF PRODUCING THEREOF BY RECOMBINANT TITLE OF INVENTION: TECHNOLOGY |
| TITLE OF INVENTION: TECHNOLOGY |
| TITLE OF INVENTION: TECHNOLOGY |
| TITLE OF INVENTION: TECHNOLOGY |
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| TITLE OF INVENTION: TECHNOLOGY |
| TITLE OF INVENTION: TECHNOLOGY |
| TITLE OF INVENTION: TECHNOLOGY |
| TITLE OF INVENTION WHERE: US/09/781,796B |
| CURRENT PRILING DATE: 1995-04-10 |
| PRIOR FILING DATE: 1996-04-10 |
| PRIOR FILING DATE: 1996-04-10 |
| PRIOR FILING DATE: 1998-02-01 |
| PRIOR FILING DATE: 1998-02-01 |
| PRIOR FILING DATE: 1998-02-01 |
| SEQ ID NO FILING DATE: 1998-02-01 |
| SEQ ID NO FILING DATE: 1998-03-03 |
| SECTION OF TECHNOLOGY |
| PRIOR FILING DATE: 1998-03-01 |
| PRIOR FILING DATE: 1998-03-01 |
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| PRIOR FILING DATE: 1998-03-01 |
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                                                                                                                                                                                                 61 SLYIYKWPAEKENDIGVVHQVEECRVKGPGISKFVQKVNEIGIYLTDCMERAREVIPRSQ
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                       SAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTXIL
LYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEILRDPCFHPGYKKVVNVSDLYKTP
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100.0%; Pred. No. 9.9e-234;
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Matches 510; Conservative
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Patent No. US20020138858A1

GENERAL INFORMATION:

GENERAL INFORMATION:

TITLE OF INVENTION: ISCHEMIC DISORDERS

TITLE OF INVENTION: ISCHEMIC DISORDERS

TITLE OF INVENTION: ISCHEMIC DISORDERS

TITLE OF INVENTION: ISCHEMIC DISORDERS

CURRENT FILINGIATE: 1999-08-13

CURRENT FILINGIATE: 1999-08-13

NUMBER OF SEQ ID NOS: 2

SOFTWARE: Patentin Ver. 2.1

SEQ ID NO 1

SEQ ID NO 1

TYPE: PRT

CURRENT HOWO-SAPIEN
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GENERAL INFORMATION:
APPLICANT: Ford, John
APPLICANT: Mulero, Julio
TITLE OF INVENTION: METHODS AND MATERIALS RELATING TO NOVEL CD39-LIKE POLYPEPTIDES
FILE REFERENCE: 28110/35908
CURRENT APPLICATION NUMBER: US/10/092,063
CURRENT FILING DATE: 2002-03-05
PRIOR APPLICATION NUMBER: PCT/US99/16180
PRIOR APPLICATION NUMBER: D9/370,265
PRIOR APPLICATION NUMBER: D9/350,836
PRIOR PILING DATE: 1999-07-16
PRIOR PELING DATE: 1999-07-09
PRIOR PILING DATE: 1999-07-09
PRIOR PILING DATE: 1999-07-09
PRIOR PILING DATE: 1999-07-04
PRIOR PILING DATE: 1999-07-24
PRIOR PILING DATE: 1999-07-24
PRIOR PILING DATE: 1998-07-24
PRIOR PILING DATE: 1998-07-24
PRIOR PILING DATE: 1998-07-16
PRIOR APPLICATION NUMBER: 09/122,449
PRIOR PILING DATE: 1998-07-24
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PRIOR SEQ ID NOS: 39
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Best Local Similarity 100.0%; Pred. No. 2e-229;
Matches 502; Conservative , 0; Mismatches 0
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                                                                                                     481 MVLFSLVLFTVAIIGLLIFHKPSYFWKDMV
                                                                              481 MVLFSLVLFTVAIIGLLIFHKPSYFWKDMV
                                                                                                                                                                                                                  Sequence 38, Application US/10092063 Publication No. US20020173005A1 GENERAL INFORMATION:
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ORGANISM: Homo sapiens
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LENGTH: 502
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Sequence 30, Application US/10646308

Publication No. US20040136992A1

GENERAL INFORMATION:

APPLICANT: BURTON, Paul B. J.

TITLE OF INVENTION: COMPOSITIONS AND METHODS POR TREATING CARDIOVASCULAR DISEASE

FILE REFERENCE: 3432-B

CURRENT FILING DATE: 2003-08-21

PRIOR APPLICATION NUMBER: --to be assigned--

PRIOR APPLICATION NUMBER: --to be assigned--

PRIOR APPLICATION NUMBER: 60/406,418

PRIOR FILING DATE: 2003-08-12

PRIOR FILING DATE: 2003-08-28

NUMBER OF SEQ ID NOS: 36

SOFTWARE: PATENTH VERSION 3.2

SEQ ID NO 30

LENGTH: 510
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                                                                                               SAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYIL 420
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                CTKRFEMTLPFQQFEIQGIGNYQQCHOSILELFNTSYCPYSQCAFNGIFLPPLQGDFGAF
                                                       CTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTSYCPYSQCAFNGIFLPPLQGDFGAF
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                                                                                                                                                                                                                                                                                 481 MVLFSLVLFTVAIIGLLIFHKPSYFWKDMV 510
                                                                                                                                                                                                                                                        MYLFSLYLFTVAIIGLLIFHKPSYFWKDMV 510
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Best Local Similarity 100.0%;
Matches 510; Conservative 0;
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CORGANISM: Homo sapiens
US-10-646-308-30
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US-10-646-308-30
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LTNMIPAEQPLSTPLSHST 439
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Best Local Similarity 100.0
Matches 439; Conservative
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ORGANISM: Homo sapiens
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US-09-835-147-6
                                                                                   RESULT 7
US-09-374-586-2
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 SLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLNLTNMIPABQPLSTPLSHSTYVFL 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            84 CRVKGPGISKFVOKVNEIGIYLIDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEE 143
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   132 LADRVLDVVERSLSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYET 191
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                                                                                                                                                                            Sequence 27, Application US/09835147
Fatent No. US20020002277A1
GENERAL INFORMATION:
APPLICANT: Mailszewski, Charles R.
APPLICANT: Frice, Virginia L.
APPLICANT: Frice, Virginia L.
APPLICANT: Price, Virginia L.
APPLICANT: Gimpel, Steven D.
TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE REPRENCE: 2879-US
CURRENT APPLICATION NUMBER: US/09/835,147
CURRENT APPLICATION NUMBER: US 60/107,466
FRIOR APPLICATION NUMBER: US 60/107,466
FRIOR FILING DATE: 1998-10-16
FRIOR FILING DATE: 1998-10-16
FRIOR FILING DATE: 1999-10-13
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                                                                                     481 MVLFSLVLFTVAIIGLLIFHKP
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US-09-835-147-27
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LENGTH: 464
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VNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLS 157
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                                                                                                                                                 Sequence 2, Application US/09374586
Patent No. US20020138858A1
GENERAL INFORMATION:
GENERAL INFORMATION:
TITLE OF INVENTION: CD39/ECTO-ADPASE AS A TREATMENT FOR THROMBOTIC AND TITLE OF INVENTION: ISCHEMIC DISORDERS
FILE REFERENCE: 0575/59167
CURRENT APPLICATION NUMBER: US/09/374,586
NUMBER OF SEQ ID NOS: 2
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 2.
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Patent No. US20020002277A1
GENERAL INFORMATION:
APPLICANT: Maliszewski, Charles R.
APPLICANT: Gayle III, Richard B.
APPLICANT: Price, Virginia L.
APPLICANT: Price, Virginia L.
APPLICANT: Gimpel, Steven D.
TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE REFERENCE: 2879-US
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432 QGSDAGWTLGYMLNLTNMIPAEQPLSTPLSHST 464
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US-09-835-147-30
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Patent No. US2002002277A1
GENERAL INFORMATION:
APPLICANT: Malissewski, Charles R.
APPLICANT: Gayle III, Richard B.
APPLICANT: Gimpel, Steven D.
TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE OF PRICATON NUMBER: US/09/835,147
CURRENT APPLICATION NUMBER: US/09/835,147
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     PRIOR APPLICATION NUMBER: US/U9/835,147

PRIOR APPLICATION NUMBER: US 60/104,585

PRIOR FILING DATE: 1998-10-16

PRIOR APPLICATION NUMBER: US 60/107,466

PRIOR PILING DATE: 1998-11-06

PRIOR PLING DATE: 1999-08-13

PRIOR FILING DATE: 1999-08-13

PRIOR FILING DATE: 1999-08-13

PRIOR FILING DATE: 1999-08-13

PRIOR FILING DATE: 1999-08-13

NUMBER OF SEQ ID NOS: 31

SOFTWARE: Patentin Ver. 2.0

SEQ ID NO 6
CURRENT APPLICATION NUMBER: US/09/835,147
CURRENT FILING DATE: 2001-04-13
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PRIOR FILING DATE: 1998-10-16
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ORGANISM: Artificial Sequence
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Best Local Similarity
Matches 439; Conservat
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US-09-835-147-30
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85 VNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLS 144
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Patent No. US2002002277A1

GENERAL INFORMATION:

APPLICANT: Maliszewski, Charles R.

APPLICANT: Gimpel, Stewn D.

TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment

FILE REFERENCE: 2879-08

CURRENT FILING DATE: 2001-04-13

CURRENT FILING DATE: 1998-10-16

PRIOR FILING DATE: 1998-10-16

PRIOR FILING DATE: 1998-11-06

PRIOR FILING DATE: 1998-11-06

PRIOR FILING DATE: 1998-11-06

PRIOR FILING DATE: 1998-11-06

PRIOR FILING DATE: 1998-11-06
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Best Local Similarity 100.0%; Pred. No. 2.7e-202;
Matches 439; Conservative 0; Mismatches 0;
463
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LTNMIPAEQPLSTPLSHST 476
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ORGANISM: Artificial Sequence
                                  TYPE: PRT
ORGANISM: Artificial Sequence
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Best Local Simi
Matches 439;
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US-09-835-147-3
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APPLICANT: Gayle III, Richard B.
APPLICANT: Gayle III, Richard B.
APPLICANT: Gayle III, Richard B.
APPLICANT: Gayle III, Richard B.
APPLICANT: Gayle III, Richard B.
APPLICANT: Gimpel, Steven D.
TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE REPRENCE: 2979-US
CURRENT APPLICATION NUMBER: US/09/835,147
CURRENT FILING DATE: 1298-10-04-13
PRIOR FILING DATE: 1998-10-16
PRIOR FILING DATE: 1998-11-06
PRIOR FILING DATE: 1999-08-13
PRIOR FILING DATE: 1999-08-13
PRIOR FILING DATE: 1999-08-13
PRIOR FILING DATE: 1991-013
NUMBER OF SEQ ID NOS: 31
SOFTWARE: PatentIN Ver. 2.0
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                                                                                                                                                             ; OTHER INFORMATION: Description of Artificial Sequence: Pusion; OTHER INFORMATION: construct of human CD39
US-09-835-147-29
                                                                                                                                                                                                                                     Length 473;
                                                                                                                                                                                                                                 Ouery Match 87.0%; Score 2348; DB 9; Length 4 Best Local Similarity 100.0%; Pred. No. 2.8e-202; Matches 439; Conservative 0; Mismatches 0; Indels
PRIOR APPLICATION NUMBER: PCT/US99/22955
PRIOR FILING DATE: 1999-10-13
NUMBER OF SEQ ID NOS: 31
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 29
LENGTH: 473
TYPE: PRT
TYPE: PRT
ORGANISM: Artificial Sequence
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Patent No. US20020002277A1
GENERAL INFORMATION:
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VNEIGIYLTDCMERAREVIPRSQHQETPVYLGATACMRLLRMESEELADRVLDVVERSLS 157
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                                                                                                                                                                                                                                 NYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGA 217
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              Fusion
                                                                                            Indels
                                                                    Length
PEATURE:
OTHER INFORMATION: Description of Artificial Sequence:
OTHER INFORMATION: construct of human CD39
US-09-835-147-28
                                                                  87.0%; Score 2348; DB 9; L
100.0%; Pred. No. 2.8e-202;
Live 0; Mismatches 0;
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100 VNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLS 159
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APPLICANT: Maliszewski, Charles R.
APPLICANT: Gayle III, Richard B.
APPLICANT: Gayle III, Richard B.
APPLICANT: Frice, Virginia L.
APPLICANT: Gimpel, Steven D.
TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment
FILE REPERSENCE: 2979-08.
TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment
FILE REPERSENCE: 2979-08.
FILE REPERSENCE: 2999-08.
FRIOR PELICATION NUMBER: US 60/104,585
PRIOR FILING DATE: 1998-10-16
PRIOR FILING DATE: 1998-11-06
PRIOR FILING DATE: 1999-11-06
PRIOR FILING DATE: 1999-08-13
PRIOR FILING DATE: 1999-08-13
NUMBER OF SEQ ID NOS: 31
SCHWARE: PatentIn Ver. 2.0
                                                                                                                                     40 TONKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQK
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      Length 478;
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US-09-835-147-26
  Query Match 87.0%; Score 2348; DB 9; I Best Local Similarity 100.0%; Pred. No. 2.8e-202; Matches 439; Conservative 0; Mismatches 0;
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100.0%; Pred. No. 2.9e-202;
ive 0; Mismatches 0;
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Patent No. US2002002277A1
GENERAL INFORMATION:
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ORGANISM: Artificial Sequence
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Best Local Similarity 100.
Matches 439; Conservative
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US-09-835-147-26
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LENGTH: 487
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APPLICANT: Maliazowski, Charles R.
APPLICANT: Gayle III, Richard B.
APPLICANT: Gimpel, Steven D.
TTLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE REFERENCE: 2879-03
CURRENT APPLICATION NUMBER: US/09/835,147
CURRENT APPLICATION NUMBER: US 60/104,585
PRIOR PLING DATE: 1998-10-16
PRIOR PLING DATE: 1998-10-16
PRIOR PLING DATE: 1998-10-16
PRIOR PLING DATE: 1999-10-13
PRIOR FILING DATE: 1999-10-13
PRIOR FILING DATE: 1999-10-13
PRIOR FILING DATE: 1999-10-13
SEQ ID NOS: 31
SEQ ID NOS: 31
LENGTH: A78
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      Fusion
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                                                                                       Query Match
87.0%; Score 2348; DB 9; Length 476;
Best Local Similarity 100.0%; Pred. No. 2.8e-202;
Matches 439; Conservative 0; Mismatches 0; Indels
OTHER INFORMATION: Description of Artificial Sequence:
OTHER INFORMATION: construct of human CD39
US-09-835-147-3
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Patent No. US20020002277A1
GENERAL INFORMATION:
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                 49 TQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGFGISKFVQK 108
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Sequence 4, Application US/09835147

Sequence 4, Application US/09835147

Sequence 4, Application US/09835147

Sequence 4, Application US/09835147

Sequence 5, USZ02002277A1

SEMENAL INFORMATION:

APPLICANT: Gampel, Charles R.

APPLICANT: Gampel, Steven D.

APPLICANT: Gimpel, Steven D.

TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE REPERENCE: 2879-US

CURRENT PLING DATE: 1099-US

CURRENT PLING DATE: 1099-10-16

PRIOR FILING DATE: 1998-110-16

PRIOR FILING DATE: 1998-110-16

PRIOR FILING DATE: 1999-08-13

PRIOR FILING DATE: 1999-08-13

PRIOR PLING DATE: 1999-08-13

PRIOR FILING DATE: 1999-08-13

PRIOR PLING DATE: 1999-08-13

PRIOR FILING DATE: 1999-08-13

PRIOR FILING DATE: 1999-08-13
97
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                                                                                                                                    NYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGA
                                                                                                                                                    169 NYPEDEÇGARIITGQEEGAYGWITINYLGKFSQKTRWFSIVPYETNNQETFGALDLGGA
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Pred. No. 1.1e-197;
2; Mismatches 7; Indels
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CTHER INFORMATION: construct of human CD39
NAME/KEY: VARIANT
LOCATION: (39)
COTHER INFORMATION: Any amino acid, preferably Cys or Series.
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Best Local Similarity 97.1%;
Matches 432; Conservative
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ORGANISM: Artificial Sequence
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQ ID NOS: 31
SOFTWARE: Patentin Ver. 2.0
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LDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQ 271
                                                                                                272 VASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILE 331
                              151
                                      211
                                                                         211
                                                                                                                                    331
91
               91
                                                          272 VASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLFPQQFEIQGIGNYQQCHQSILE
                             SKFVQKVNEIGIYLIDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDV
GLTQNKALPENVK----YGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGI
        452 LGYMLNLTNMIPAEOPLSTPLSHST 476
                                                                                                                                                                                                                                                   Search completed: March 7, 2005, 14:12:36 Job time : 61.831 secs
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March 7, 2005, 12:59:07; Search time 13:6708 Seconds (without alignments) 3117.881 Million cell updates/sec
GenCore version 5.1.6 ; Copyright (c) 1993 - 2005 Compugen Ltd.
                                                                                  OM protein - protein search, using sw model
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US-09-835-147A-2_COPY_36_478
2369
1 GLTQNKALPENVKKGIVLDA.....TNMIPAEQPLSTPLSHSTYV 443 BLOSUM62 Gapop 10.0 , Gapext 0.5 Perfect score: Sequence: Scoring table:

283416 seqs, 96216763 residues Searched:

283416 Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

PIR 79:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:* Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

,	Description	lymphoid cell acti	hypothetical prote	-4	cal	probable nucleotid	probable nucleosid	hypothetical prote	7A19.33 protein -	hypothetical prote	probable guanosine	nucleoside triphos	hypothetical prote		hypothetical prote	guanosine-diphosph	nucleoside-triphos	C4-dicarboxylase-b	hypothetical prote		졏	autolysin, N-acety	hypothetical prote			_	_	c	hypothetical prote	a	
SUMMARIES	OI.	156242	D86276	E86276	S50463	T40856	G84442	T34147	C86276	T16696	T39109	S48859	T04439	JC4616	T23508	A40732	A55421	877299	T21516	T27332	B43963	AB1411	D86247	B84532	B89985	T05213	T18979	T17414	A96738	T03774	
	DB	7	N	~	~	N	~	~	~	8	~	~	~	N	N	~	~	N	~	~	~	~	7	N	N	~	~	N	N	7	
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	Query	0.0	-	9.8	9.1	9.	7.2	7.0	6.7	6.2	6.1	5.8	4.2	4.1	•	3.5	7.0	4.4	4.3	4.2	4.2	4.2	4.2	4.2	4.2	4.1	4.1	4.1	4.1	4.1	
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	Score	2369	505	469.5	453	417	406.5	402.5		383.5	381.5	374.5	336.5	334	330	320.5	167	103.5	101.5	100	66		98.5	98.5		98	98	98	97.5	97	
	Result No.	7	7	m	4	Ŋ	9	7	60	0	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	

probable fimbrial	(R) -2-hydroxygluta	hypothetical prote	serine/threonine k	spore germination	Mg2+ transporter h	hypothetical prote	lacticin 481/lacto	probable permease	probable permease	hypothetical prote	hypothetical 51.7	probable dnaK prot	probable dnaK-type	beta-galactosidase
B85725 T51173	A72369	F89770	AG2391	B48583	369859	S15962	T43110	228	075	251	H65192	A90715	H64799	F47541
1 B8	A72	F8,	AG	B4	99	S	T43	G91228	F86075	T21251	H65	A90	H64	T47
2 BB	2 A72	2 F85	2 AG	1 B4	2 G6	2 \$1	2 T43	2 G91	2 F86	2 T21	2 H65	2 A90	2 H64	2 T47
01 C	1415 2 A72	7	1900 2 AG	288 1 B4	N	564 2 SI	N	~	7	ď	468 2 H65	~	~	0
01 C	1415 2	7	1900 2	288 1	451 2	564 2	927 2	~	461 2	404 2	~	556 2	556 2 1	0
01 C	1415 2	591 2	5 4.0 1900 2	288 1	5 4.0 451 2 (4.0 564 2	927 2	461 2	.5 4.0 461 2	404 2	.5 3.9 468 2	.5 3.9 556 2	556 2 1	.5 3.9 727 2

ALIGNMENTS

	6 21000	
	4 3	
	C;Species:	lympholu cell activation antigen - numan C.Species: Homo sapiens (man) C.Date: 02-Inl-1966 #semience revision 02-Inl-1996 #text change 09-Inl-2004
	C; Accession	
	J. Immunol	activation antiden. Molecular cloning and structural
	A, Reference	PMID: 7930580
	A;Status:]	refininary; translated from GB/EMBL/DDBJ type: mRNA
	A; Residues A; Cross-re C; Superfam	A;Residues: 1-510 <res> A;Cross-references: UNIPROT:P49961; GB:S73813; NID:g765255; PIDN:AAB32152.1; PID:g765256 C;Superfamily: nucleoside triphosphatase chromatin-associated</res>
	Query Mat Best Loca Matches	Query Match Best Local Similarity 100.0%; Pred. No. 2e-184; Matches 443; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
	ò	1 GLTQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFV 60
	Db	36 GLTQNKALPENVKXGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFV 95
	ò	61 QKVNBIGIYLTDCMBRAREVIPRSQHQETPVYLGATAGMRLLRMBSEELADRVLDVVERS 120
	qq	96 QKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERS 155
	ò	121 LSNYPPDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWPSIVPYETNNQETFGALDLG 180
	qq	156 LSNYPFDFGGARIITGGEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLG 215
	λo	181 GASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASN 240
	Q Q	216 GASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASN 275
	ò	241 BILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPPQQFBIQGIGNYQQCHQSILELFNT 300
	q	276 EILRDPCFHPGYKKVNNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNT 335
	8	301 SYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVWKFLNLTSEKVSQEKVTEMMKKFCAQPWE 360
	e e	336 SYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVWKFLNLTSEKVSQEKVTEMMKKFCAQPWE 395
	ò	361 EIKTSYAGVKEKYLSEYCPSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYM 420
ч	q	396 EIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYM 455
	ò	421 INLTHMIPAEQPLSTPLSHSTYV 443
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Nature 408, 816-820, 2000

Nature 408, 816-820, 2000

Nature 408, 816-820, 2000

Nature 408, 816-820, 2000

Nature 408, 816-820, 2000

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               54 PGISKFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRV 113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                114 LDVVERSLSNYPFDFQG--ARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQ 171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 335 INLTSEKVSQEKVTEMM---KKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQG 391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            228 WQKLAKDIQVASNE-ILRDPCFHPGYKKVVNVSDLYKTPCTK------RFEMTLPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    29 PGLSSYADNPEGASVSVTKLVEFAKGRIPKGKLKKSDIRLMATAGMRLLDVPVQE---QI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            277 QQFEIQGIGNYQQCHQSILELF -- NTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ---OVOAAGDFTKCRSATLAMLOEGKENĆAÝKHĆSIGSTFTPNIOGSFLATENFFHTSKF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; Score 469.5; DB 2; Length
; Pred. No. 2.9e-30;
65; Mismatches 145; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  392 YHFTADSWEHIHFIGKI--QGSDAGWTLG-YMLN
ansen, N.F.; Hughes, B.; Huizar, L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   19.8%;
31.2%;
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A;Cross-references: SGD:S000807
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches 123; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A, Map position: 5R
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local &
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             191
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                                                        RESULT 2
D86276
hypothetical protein F7A19.34 [imported] - Arabidopsis thaliana
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004
C;Accession: D86276
C;Accession: D86276
C;Accession: D86276
C;Arcession: D86276
C;Arcession: D86276
R;Theologis, A.; Ecker, J.R.; Pallm, C.J.; Federspiel, N.A.; Kaul, S.; White, O.; Alonso, Chin, C.W.; Chung, M.K.; Conn, L.; Conway, A.B.; Conway, A.R.; Creasy, T.H.; Dewar, K.; ansen, N.F.; Hughes, B.; Huizar, L.
Nature 408, 416-820, 2000
A;Authors: Hunter, J.L.; Jenkins, J.; Johnson-Hopson, C.; Khan, S.; Khaykin, E.; Kim, C. C.A.; Li, J.H.; Li, Y.; Lin, X.; Liu, S.X.; Liu, Z.A.; Luros, J.S.; Maiti, R.; Marziali, Rizzo, M.; Rooney, T.T.; Rouley, D.; Sakano, H.
Rizzo, M.; Rooney, T.T.; Rouley, D.; Sakano, H.
A;Attle: Sequence and analysis of chromosome 1 of the plant Arabidopsis.
A;Reference number: A86141; MUD:21016719; PMID:11130712
A;Residues: 1-483 <STO>
A;Cross-references: UNIPROT:Q9XI62; GB:AE005172; NID:g5080801; PIDN:AAD39111.1; GSPDB:GN
C;Genetics:
A;Map position: 1
C;Superfamily: nucleoside triphosphatase chromatin-associated
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Cypothetical protein F14L17.1 - Arabidopsis thaliana
Cypothetical protein F14L17.1 - Arabidopsis thaliana
Cypotheticas: Arabidopsis thaliana (mouse-ear cress)
Cybate: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004
Cybate: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004
Cypate: 02-Mar-2001 #text_change 09-Jul-2004
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Cypate: 02-Mar-2001 #text_change 09-Jul-2004
Cypate: 02-Mar-2001 #text_change 09-Jul-2004
Cypate: 02-Mar-2001 #text_change 09-Jul-2004
Cypate: 02-Mar-2004
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               68 IYLTDCMERAREVIPRSOHOETPVYLGATAGMRLLRMESEELADRVLDVVERSL--SNYP 125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VTFVPQNQTIESPDNALQFRLYGK-DYNVYTHSFLCYGKDQALWQKLAKDIQVASNE--- 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -ILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQG----IGNYQQCHQSILE 296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        286 GVVEDPCTPKGY-----IYDTN-SKNYSSGFLADESKLKGSLQAAGNFSKCRSATFA 336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LF -- NTSYCPYSOCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKF 354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      414
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGASTQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAQPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 483;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          tch 21.3%; Score 505; DB 2; Length 48: al Similarity 31.3%; Pred. No. 4.8e-33; 135; Conservative 70; Mismatches 164; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EKHIPLDWALG 460
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Matches 13
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A;Residues: 1.630 <DIE>
A;Cross-references: UNIPROT:P40009; EMBL:U18778; NID:g603592; PID:g603597; GSPDB:GN00005
                                                                                                                                                                                                                    hypothetical protein YER005w - yeast (Saccharomyces cerevisiae)
C;Species: Saccharomyces cerevisiae
C;Species: Saccharomyces cerevisiae
C;Date: 28-May-1993 #sequence_revision 24-Feb-1995 #text_change 09-Jul-2004
C;Accession: 550463
R;Dietrich, F.S.
R;Dietrich, F.S.
A;Description: The sequence of S. cerevisiae cosmids 9537, 9581, 9495, 9867, and lambda A;Accession: 550463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              22;
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| | | : | : | | : | | CVALDD-ERIKYASKAGKENIPLDWALGAFILN 386
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Mon Mar 7 13:29:09 2005

Db 224 NEAYRRYLGILIESENGKVGNTLSDPCSLRG	RESULT 6 g8442 probable nucleoside triphosphatase [imported] - Arabidopsis thaliana C;Species: Arabidopsis thaliana (mouse-ear cress) C;Species: Arabidopsis thaliana (mouse-ear cress) C;Species: Arabidopsis thaliana (mouse-ear cress) C;Species: O2-Feb-2001 #sequence_revision 02-Feb-2001 #text_change 09-Jul-2004 C;Accession: G84442 R;Lin, X.; Kaul, S.; Rounsley, S.D.; Shea, T.P.; Benito, M.I.; Town, C.D.; Fujii, C.Y.; M; Koo, H.; Moffat, K.S.; Cronin, L.A.; Shen, M.; VanAken, S.E.; Umayam, L.; Tallon, L. Nature 402, 761-768, 1999 A;Title: Sequence and analysis of chromosome 2 of the plant Arabidopsis thaliana. A;Reference number: A84420; MUD:20083487; PMID:10617197 A;Recosion: G84442 A;Accession: G84442 A;Accession: G84442 A;Accession: G84442 A;Accession: DNA A;Residues: 1.516 <sto> A;Cross-references: UNIPROT:080612; GB:AE002093; NID:G3461821; PIDN:AAC32915.1; GSPDB:GN A;Gene: Atzg02970 A;Map position: 2 C;Superfamily: nucleoside triphosphatase chromatin-associated</sto>	Query Match Best Local Similarity 27.5%; Pred, No. 5.3e-25; Matches 117; Conservative 68; Mismatches 187; Indels 53; Gaps 13; Matches 117; Conservative 68; Mismatches 187; Indels 53; Gaps 13; QY 11 NVXQIVLDAGSSHTSLYIYKMPAKENDTGVHQVEGRAV.GPGISKFVQKVNEIGIY 69 12 SIRYSVVIDGGSTGTRIHVFGYRIESGKEVFERGANYASLKLHPGLSAFADDPDGASVS 124 QY 70 LTDCMERAREVIPRSQHQETPVVLGATAGMRILEMESELADRVLDVVERSL-SNYPFD 127
11 NVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVK-GPGI 56 1:	Qy 265 PCTKRFEWTLPFQQFEIGGIGNYQCHQSILE-LFNTSYCFYSGCAFNGIFLPPLQGDF-322 Db 282EFKDTIFHIAGSGNYEQCTKSIYPLLIKNAMPCDDEPCLFNGVHAPRIDFA 331 Qy 323GAFSAFYFVMKFLNLTSEKVSGEKYTEMMKKFCAQPWEEIKTSYAGVKEK 372 Db 332 NDKFIGTSEYWYTANDVFKLGGE-YNFDKFSKSLREFCNSWYTGILANSDKGYYNSIPEN 390 Qy 373 YLSEYCFSGTYLLSLILQGYHFTADSWEHIHFTGXGGAGYTLGYLL 447 RESULT 5 T40856 T40856 TA0856 TA0856 TA0856 TA0856 C; Dete: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 09-Jul-2004 C; Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 09-Jul-2004 S; Ramaperger, U: Pohl, T: Wood, V: Rajandream, M.A.; Barrell, B.G.	A, Accession: T40856 A, Status: preliminary; translated from GB/EMBL/DDBJ A, Accession: T40856 A, Status: preliminary; translated from GB/EMBL/DDBJ A, McCession: T40856 A, Status: preliminary; translated from GB/EMBL/DDBJ A, McOssion: T40856 A, Status: preliminary; translated from GB/EMBL/DDBJ A, Gross-references: UNIPROT.Q9USP2; EMBL:AL121783; PIDN:CABS7847.1; GSPDB:GN00068; SPDB:A; Experimental source: strain 972h-; cosmid cilE10 C, Genetics: A, Gap. SpDB:SPCCIIE10.05c A, Map position: 3 Query Match Best Local Similarity Z.6.7%; Pred. No. 8.78-26; Matches 134; Conservative 73; Mismatches 166; Indels 128; Gaps 20; Matches 134; Conservative 73; Mismatches 166; Indels 128; Gaps 20; Matches 134; Conservative 73; Mismatches 166; Indels 128; Gaps 20; Matches 134; Conservative 73; Mismatches 167 indels 128; Gaps 20; Matches 134; Conservative 73; Mismatches 167 indels 128; Gaps 20; Matches 134; Conservative 73; Mismatches 167 indels 128; Gaps 20; Matches 134; Conservative 73; Mismatches 167 indels 128; Gaps 20; Matches 134; Conservative 73; Mismatches 167 indels 128; Gaps 20; Matches 134; Conservative 73; Mismatches 167 indels 128; Gaps 20; Matches 134; Conservative 73; Mismatches 167 indels 128; Gaps 20; Matches 134; Conservative 73; Mismatches 167 indels 128; Gaps 20; Matches 134; Conservative 73; Mismatches 167 indels 128; Gaps 20; Matches 134; Conservative 73; Mismatches 167 indels 128; Gaps 20; Matches 134; Conservative 73; Mismatches 168; Mismatches 188; Gaps 20; Matches 134; Conservative 73; Mismatches 188; Gaps 20; Matches 134; Conservative 73; Mismatches 188; Gaps 20; Matches 134; Conservative 73; Mismatches 188; Gaps 20; Matches 134; Conservative 73; Mismatches 188; Gaps 20; Matches 134; Conservative 73; Mismatches 188; Gaps 20; Matches 134; Conservative 73; Mismatches 73; Mismatches 73; Mismatches 73; Mismatches 73; Mismatches 73; Mismatches 73; Mismatches 73; Mismatches 73; Mismatches 73; Mismatches 73; Mismatches 73; Mismatches 73; Mismatches 73; Mismatches 73; Mismatches 73; Mismatches 73; Mismatches 73

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Aluthors: Hunter, J.L., Jenkins, J.; Johnson-Hopson, C.; Khan, S.; Khaykin, E.; Kim, C., Rizzo, M.; Li, Li, Y.; Lin, X.; Liu, S.X.; Liu, Z.A.; Luros, J.S.; Maiti, R.; Marziali, Rizzo, M.; Rooney, T.; Rowley, D.; Sakano, H.
A;Authors: Salzberg, S.L.; Schwartz, J.R.; Shinn, P.; Southwick, A.M.; Sun, H.; Tallon, ker, M.; Wu, D.; Yu, G.; Fraser, C.M.; Venter, J.C.; Davis, R.W.
A;Ritle: Sequence and analysis of chromosome 1 of the plant Arabidopsis.
A;Accession: C86276
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-508 <STO>
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Experimental source: strain Bristol N2
                                                                                                                                                                                                                                                                                                                                                                   A;Cross-references: UNIPROT:Q9XI63; GB:AE005172; NID:g5080800; PIDN:AAD39310.1; GSPDB:GN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STGEGIVPDPCIPKGYILETNLQKDLPGFLADKGKFTATL-----QAAGNFSECRSAA 320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        --KKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQ 409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNN-QETFGALDLG-----GA 182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -----RDEWASVISEILENFODLMKVYMLGLLLIMRSV 211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LELF -- NTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMM- 351
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C.Species: Caenorhabditis elegans
C.Date: 20-Sep-1999 #sequence_revision 20-Sep-1999 #text_change 20-Sep-1999
C.Accession: T16696
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           11 NVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVK-GPGISKFVQKVNEIGIY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SLHYSVIIDGGSSGTRVHVFGYRIESGKPVFDFGEENYASLKLSPGLSAYADNPEGVSES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STOVTFVPQNQTIESPDNALQFRLYGK-DYNVYTHSFLCYGKDQALWQKLAKDI-QVASN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          E----ILRDPCFHPGYKKVVNV-SDLYKTPCTK-RFEMTLPFQQFEIQGIGNYQQCHQSI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 508;
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A;Introns: 39/1; 67/1; 145/2; 192/1; 244/3; 317/3; 451/3; 488/2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                  A,Map position: 1
C,Superfamily: nucleoside triphosphatase chromatin-associated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Rimiller, N. submitted to the EMBL Data Library, October 1995 A; Description: The sequence of C. elegans cosmid R07E4 A; Reference number: Z18661 A; Reference number: Z18661 A; Accession: T16696
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        16.7%; Score 394.5; DB 2; 28.2%; Pred. No. 4.9e-24; iive 71; Mismatches 171;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
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EEDIPLDWALGAFILN 451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity 28.23
Matches 123; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Residues: 1-557 <MIL>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 63
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R;Theologis, A.; Ecker, J.R.; Palm, C.J.; Federspiel, N.A.; Kaul, S.; White, O.; Alonso,
Chin, C.W.; Chung, M.K.; Conn, L.; Conway, A.B.; Conway, A.R.; Creasy, T.H.; Dewar, K.,
ansen, N.F.; Hughes, B.; Huizar, L.
                                                                                                                                                                                                                      hypothetical protein C33H5.14 - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 29-Oct-1999 #sequence_revision 29-Oct-1999 #text_change 09-Jul-2004
C;Accession: T34147
E;Beadshaw, H.; Stellyes. Lib.
Submitted to the BEBL Data Library, November 1995
A;Description: The sequence of C. elegans cosmid C33H5.
A;Reference number: Z21482
A;Reference number: Z21482
A;Reference number: BEBL Data Library, November 1995
A;Reference number: BEBL Data Library, November 1995
A;Reference number: BEBL Data Library, November 1995
A;Reference number: BEBL Data Library, November 1995
A;Cession: T3447
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Cross-references: UNIPROT: Q18411; EMBL: U41007; PIDN: AAA82272.1; CESP: C33H5.14
A;Experimental source: strain Bristol N2
C;Genetics:
A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: C;Genetics: A;Genetics: C;Genetics: A;Genetics: C;Genetics: C;Genetics: A;Genetics: C;Genetics: A;Genetics: C;Genetics: A;Genetics: C;Genetics: A;Genetics: C;Genetics: A;Genetics: C;Genetics: C;Genetics: A;Genetics: C;Genetics: A;Genetics: C;Genetics: C;Gene
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GIYLIDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSNYPF 126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             82 VEYLTPILRFAEEHIPYEQLGETDLLIFATAGMRLLPEAQKDAIIKNLQNGLKSVTALRV 141
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            187 TEVPONOTIESPD--NALOFRLYGKD-----YNVYTHSFLCYGKDOALWOKLAKDIQVA 238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                190 AFEIANEK-ESYNGGNVYEINLGSIETNEDYKYKIYSTTFLGYGANEGL-KKYENSLVKS 247
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C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         22 NIKYGVICDAGSSGTRLFVYTLKPLSGGLTNIDTLIHESEPVVKKVTPGLSSFGDKPEQV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  11 NVKYGIVLDAGSSHTSLYIYKWPAEKENDIGV---VHQVEECRVK-GPGISKFVQKVNEI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   63;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 2; Length 485;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 17.0%; Score 402.5; DB 2; Length Best Local Similarity 26.7%; Pred. No. 1e-24; Matches 116; Conservative 69; Mismatches 187; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              KIQGSDAGWTLGYML 421
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                                       420 MLNLT
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nucleoside triphosphatase precursor, chromatin-associated - garden pea C;Species: Pisum sativum (garden pea)
C;Species: Pisum sativum (garden pea)
C;Date: 13-Jan-1995 #sequence_revision 13-Jan-1995 #text_change 09-Jul-2004
C;Accession: S55147; S#859
R;Hsieh, H.L.; Tong, C.G.; Thomas, C.; Roux, S.J.
Plant Mol. Biol. 30, 135-147, 1996
A;Title: Light-modulated abundance of an mRNA encoding a calmodulin-regulated, chromatin A;Reference number: S65141; MUID:96197404; PMID:8616230
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FVPQ----NQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEIL 243
                                                                                                                     352 KESLELLGDSTSIIHPCLH-----LNASLTHPDSKSEASEVVFVGPSLAHLSLQCRGIA 405
                                                                                                                                                                 286 NYQQCHQSILELFNTSYCPYSQCAFNGIFLPPLQGDFG----AFSAFYFVMKFLNLTSE 340
                                                                                                                                                                                           341 KVSQEKVTEMMKKFCAQP--WEEIKTSYAGVKE-KYLSEYCFSGTYILSLLLQGYHFTAD 397
                                                                                                                                                                                                                                                                              56 ISKFVQKVNEIGIYLIDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLD 115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    116 VVERSLSN-YPFDFQ--GARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQE 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QALWQKLAKDIQVASNEILR-----DPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQ 278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -AYTSGANFNKCKNTIRKALKLNYPCPYQNCTFGGIW----NGGGGNGQKNLFASSSFFY 340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VMKFLNLTSEK-----VSQEKVTEMMKKFCAQPWEEIKTSYAGVKEKYLSEY-CFSGTYI 384
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  84
                                                                                  RD------TLPFQQFEIQGIG
                                     294 FEPRFASDGESLVDGDHKYVLDYNGEQYELYQHSHLGYGLKEA--RKLIHKFVLNNAEAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   29 LISRKIFLKQEEISSYAVVFDAGSTGSRIHVYHF----NQNLDLLHIGKGVEYYNKITPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TFGALDLGGASTQVTFVPQNQTIESPDNAL-----QFRLYGKDYNVYTHSFLCYGKD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         279 FEIQGIGNYQQCHQSILELFNTSY-CPYSQCAFNGIFLPPLQGDFG-----AFSAFYF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ------EASRAEILKLTPRSPNPCLLAGFNGIYTYSG------EBFKAT----
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              401 YVLLVDG--FGLDPLQKITSGKEIBYQDAIVEAAWPLGNAVEAISALP 446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 455;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 80; Mismatches 177; Indels
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C;Superfamily: nucleoside triphosphatase chromatin-associated
C;Reywords: nucleus
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Pred. No. 1.8e-22;
                                                                                                                                                                                                                                                                                                                                       398 SWEHIHFIGKIQGSDAGWTLGYMLNL 423
                                                                                                                                                                                                                                                                                                                                                               --RQLHTAKKIDNKELGWCLGASLSM 540
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Best Local Similarity 25.6%;
Matches 120; Conservative 80
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A; Residues: 1-455 <HS2>
                                                                                  244
188
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    probable guanosine-diphosphatase - fission yeast (Schizosaccharomyces pombe)
C;Species: Schizosaccharomyces pombe
C;Species: Schizosaccharomyces pombe
C;Species: O3-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 09-Jul-2004
C;Accession: T39109
R;Barrell, B.G.; Rajandream, M.A.; Quail, M.; Seegar, K.; Harris, D.
R;Barrell, B.G.; Rajandream, M.A.; Quail, M.; Seegar, K.; Harris, D.
R;Reference number: Z21828
A;Reference number: Z21828
A;Accession: T39109
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Accession: T39109
A;Accession: T39109
A;Residues: 1-556 *ABR>
A;Residues: 1-556 *ABR>
A;Cross-references: UNIPROT;Q9UT35; EMBL:AL121741; PIDN:CAB57338.1; GSPDB:GN00066; SPDB:A;Ecoss-references: strain 972h-; cosmid c824
A;Experimental source: strain 972h-; cosmid c824
A;Genetics: 1
A;Map position: 1
                                                                                                                                                                                                                                                                                                                                                      GASTQVIF-VPQNQTIES------PDNALQFRLYGKDYNVYTHSFLCYGKDQALW 228
                                                                                                                                                                                                                                                                                                                                                                                       GASAQIAFELPDIDSFSSINVENINLGCREDDSL-FK-----YKLFVITFLGYGVNEGIR 275
                                                                                                                                                                                                                                                                                                                                                                                                                                       Q----KLAKDIQVASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIG 285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |: | | : : | | : : | | : | | : | | : | | 321 NWNTCSNEVKKLINPESSSEVCKAEAAKCYFGAVPAPSIPLSNIEMYGFSEYWYSTHDVL 380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NYQQCHQSILELFN----TSYC--PYSQCAFNGIFLP--PLQG-DFGAFSAFYFVMKFLN 336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            337 LTSEKVSQEKVTEMMKKFCAQPWEEI----KTSYAGVKEKYLSEYCFSGTYILSLLLQG 391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSN-YPFDF- 128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -QGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGASTQVT 187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ----THSTVAVMDLGGASTOLV 293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 14 YGJVLDAGSSHTSLYIYKWPAEKEND----TGVVHQVEECRVK-GPGISKFVQKVNEIGI
                                                                                                                                                                                YLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSN----
                                                                                                                                                                                                                                                                   124 -- YPFDFQGARIITGQEEGAYGWITINYLLGKFSQ-KTRWFSIVPYETNNQETFGALDLG
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                                                          Gaps
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                                                          73;
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                                                          Indels
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               ; Score 383.5; DB 2;
; Pred. No. 4.4e-23;
85; Mismatches 194;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        16.1%; Score 381.5; DB 2;
Llarity 27.1%; Pred. No. 6.4e-23;
Conservative 71; Mismatches 181;
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               16.2%;
25.9%;
                                                          123; Conservative
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Best Local Similarity
Matches 121; Conserv
                                     Similarity
               Query Match
Best Local Si
Matches 123,
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A.Status: preliminary; translated from GB/EMBL/DDBJ
A.Molecule type: DNA
A.Moseduces: 1.479 cWIL.
A.Moseduces: 1.479 cWIL.
A.Moseduces: 1.479 cWIL.
A.Cross-references: UNIPROT: QSXU84; EMBL: Z83113; PIDN: CABOS544.1; GSPDB: GN00023; CESP: KO
A.Experimental source: clone K08H10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 hypothetical protein KO8H10.4 - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 09-Jul-2004
C;Accession: T23508
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submitted to the EMBL Data Library, November 1996
A;Reference number: Z19750
A;Accession: T23508
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A, Map position: 5
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                               C, Genetics:
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JC4616
apyrase (EC 3.6.1.5) precursor - potato
NyAlternate names: adenylpyrophosphatase; ATP-diphosphohydrolase
C;Species: Solanum tuberosum (potato)
C;Date: 10-May-1996 #sequence_revision 19-Jul-1996 #text_change 09-Jul-2004
C;Accession: JC4616; Pc4147
R;Handa, M.; Guidotti, G.
Biochem. Biophys. Res. Commun. 218, 916-923, 1996
A;Title: Purification and cloning of a soluble ATP-diphosphohydrolase (Apyrase) from pot
A;Accession: JC4616
A;Accession: JC4616
A;Accession: BC4147
A;Residues: 1-454 A;AAA>
A;Residues: 1-454 A;AAA>
A;Cross-references: UNIPROT:P80595; GB:U58597; NID:g1381632; PIDN:AAB02720.1; PID:g13816
A;Molecule type: protein
A;Residues: 59-95;96-131;132-160;236-253;332-345 A;A2>
A;Experimental source: tubers
Argotherical protein T18B16.150 - Arabidopsis thaliana
Nypotherical protein T18B16.150 - Arabidopsis thaliana
C,Species: Arabidopsis thaliana (mouse-ear cress)
C,Species: 30-Apr-1999 #sequence_revision 30-Apr-1999 #text_change 09-Jul-2004
C,Accession: T04439
R,Bevan, M,; Benes, V.; Rechmann, S.; Borkova, D.; Ansorge, W.; Bancroft, I.; Mewes, H.W
R,Bevan, M,; Benes, V.; Rechmann, S.; Borkova, D.; Ansorge, W.; Bancroft, I.; Mewes, H.W
R,Recession: T04439
A,Accession: T04439
A,Accession: T04439
A,Residues: 1-1052 <BEV>
A,Residues: U1052 <BEV>
A,Residues: U1052 <BEV>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         578 PGFDKLVNNRTGLKTAIKPLIQWAEKQIPKNAHRTTSLFVYATAGVRRLRPADSSWILGN 637
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -----TPGALDLGGSSLQVTF--ENEERTHNETNLNLRIGSVNHHLSAYSLAGYGLNDAF 737
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               842
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    168 TNN\DETFGALDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQA- 226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -----LWOKLA---KDIQVASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQ 277
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LNLTSEKVSQEKVTEMMKKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHF 394
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          69;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           14.2%; Score 336.5; DB 2; Length 1052; 26.5%; Pred. No. 7.2e-19; ive 75; Mismatches 156; Indels 69;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TADSWEHIHFIGKIQGSDAGWTLGYMLNLTNMIPAEQPLSTPLSHSTY 442
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ses 108; Conservative
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C;Superfamily: nucleoside triphosphatase chromatin-associated
C;Superfamily: nucleoside triphosphatase; transmembrane protein
C;Kewwords : glyoptotein; hydrolase; transmembrane protein
C;Kewwords : glyoptotein; hydrolase; transmembrane protein
F;1-30/Domain: transmembrane #status predicted <IMM>
F;1-45/Domain: transmembrane #status predicted <IMM>
F;1-44-65/Region: actin-heat shock protein 70-hexokinase beta-phosphate binding
F;4-65/Region: nucleotide binding #status predicted
F;192-212/Region: actin-heat shock protein 70-hexokinase gamma-phosphate binding
F;192-212/Region: nucleotide binding #status predicted
F;390-410,427-446/Region: hydrophobic carboxyl end
F;390-410,427-446/Region: hydrophobic carboxyl end
F;390-410,427-446/Region: hydrophobic carboxyl end
A;Note: The authors translated the codon GCA for residue 215 as Gly C;Comment: This enzyme belongs to a family of E-type ATPases, and it catalyzes enzyme has nucleotide substrate specificity, divalent cation requirement, and olved in starch synthesis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       17;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          187 TFVPQN-QTIESPDN-----ALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVAS 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              347 VTEMMKKFCAQPWEBIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIG 406
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LIDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVE---RSLSNYPF 126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              KDQWVTILDGTQEGSYMWAAINYLLGNLGK------DYKSTTATIDLGGGSVQM 205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFN 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            265 NPCALEGC--DGYSYGGVD--YKVKAPKKG------SSWKRCRRLTRHALK 306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       127 DFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGASTQV
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           10 ENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQKVNEIGIY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       72;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 454;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            14.1%; Score 334; DB 2; L 24.9%; Pred. No. 3.4e-19; Artive 80; Mismatches 185;
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Best Local Similarity 24.9%
Matches 112; Conservative
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20;

Gaps

73;

Length 518; Indela 68

248

181

356

285

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A;Cross-references: EMBL:U18779; NID:g603625; PIDN:AAB65000.1; PID:g603637; MIPS:YEL042v
C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     89 BEHKYVIMIDAGSTGSRVHIYKFDVCTSPPTLL---DEKFDMLEPGLSSF--DTDSVGAA 143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           182 ASTQVTFVPQ----KDQTIESPDNALQFRLYGKDYNVYTHSFLCYG------KDQALWQKL 231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      249 GSTOIVFEPTFPINEKMVDGEHKFDLKFGDENYTLYOFSHLGYGLKEGRNKVNSVLVENA 308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ---NYQQCHQSILELFN-TSYCPYSQCAFNGIFLPPL-----QGDFGAFSAFYFVMKFL 335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       317 GMPLSFTLNE-LNDLARIVCKGEETWNSVFSGIAGSLDELESDSHFCLDLSFQVSLLHTG 475
                                                                                                                    A,Map position: 5L
C;Function:
A;Description: hydrolase
C;Superfamily: nucleoside triphosphatase chromatin-associated
C;Superfamily: nucleoside triphosphatase chromatin-associated
C;Keywords: glycoprotein; Golgi apparatus; hydrolase; transmembrane protein
F;10-24/Domain: transmembrane #status predicted <TWM>
F;10-24/Domain: transmembrane #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               201 PVVEGDGVSIMGGDEEGVFAWITINYLLGNIG------ANGPKLPTAAVFDLGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            309 LKDGKILKGDNTKTHQLSSPCLPP----KVNATNEKVTLESK------ETYTIDFIGP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -YLTDCMERAREVIPRSQHQETPVYLGATAGMRLL-RMESEELADRVLDVVERSLSNYPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ---DFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQE--TFGALDLGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            232 AKDIQVASNE----ILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIG-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    336 NLTSEKVSQEKVTEMMKKFC--AQPWEBIKTSYAGVKEKYLSE--YCFSGTYILSLLLQG
                                                                                                                                                                                                                                                                                                                                                                                                                                       10 ENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQKVNEIGI-
                                                                                                                                                                                                                                                                                                                              13.5%; Score 320.5; DB 2; 26.8%; Pred. No. 5.2e-18; ive 70; Mismatches 188;
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                                                                      A;Gene: SGD:GDA1
A;Cross-references: SGD:S0000768; MIPS:YEL042w
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Best Local Similarity 26.8*
Matches 121; Conservative
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Job time : 16.6708 secs
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A;Residues: 1-518 <ABE>
A;Cross-treferences: UNIPROT:P32621; EMBL:L19560; NID:g349392; PIDN:AAA34656.1; PID:g3493
A;Note: sequence extracted from NCBI backbone (NCBIN:134708, NCBIP:134711)
A;Accession: B40732
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            guanosine-diphosphatase (EC 3.6.1.42) - yeast (Saccharomyces cerevisiae)
N;Alternate names: protein YEL042*
C;Species: Saccharomyces cerevisiae
C;Date: 21-Sep-1993 #sequence_revision 18-Nov-1994 #text_change 09-Jul-2004
C;Accession: A40732; B40732; S30837; S55502
R;Abeijon, C.; Yanagisawa, K.; Mandon, B.C.; Hausler, A.; Moremen, K.; Hirschberg, C.B.;
A;Cell Biol. 122, 307-323, 1993
A;Title: Guanosine diphosphatase is required for protein and sphingolipid glycosylation
A;Reference number: A40732; MUID: 93308137; PMID: 8391537
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A,Reaiduea: 1-510 <MUL>
A,Cross-references: GB:U18779; EMBL:L10830; NID:g603625; PIDN:AAB65000.1; PID:g603637
R,Dietrich, F.S.
                                                                                                                                                                                                                                                                                                                                   | ::|||::| ::||:|| | ||||:||| | DSLEPLLQRARKEVPHFMMEKTPITLKATAGLRLL---PGDMADDILESVEERIFNSGFF 156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     237
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          271 BSTHQLITSCMPEGYQ------LTEWEYALKFWNINGSSSHSFESCYGTTKNF 317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        318 VESSEI-------MHLRELKGS-PVYLFSYFFDRALNSGLVKGNEGGKIELRQFKEAA 367
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               298 FNTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNL-----TSEKVSQEKVTEMM 351
                                                                                                                                                                                               14 YGIVLDAGSSHTSLYIYKW---PAEKENDTGVVHQVEE---CRVKGPGISKFVQKVNEIG 67
                                                                                                                                                                                                                               68 IYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSNYPF-
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A; Description: The sequence of S. cerevisiae cosmids 8199, 8334, and 9871
A; Reference number: $50491
A; Accession: $50502
                                                                                                                                                 68;
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A;Residues: 125-144;238-257;276-281;366-374;399-412 <AB2>
R;Mulligan, J.T.; Dietrich, F.S.; Hennessey, K.M.; Sehl, P.; Komp,
submitted to the EMBL Data Library, February 1993
                                                                                              Length 479;
                                                                                      / Match 13.9%; Score 330; DB 2; Length 475
Local Similarity 27.2%; Pred. No. 7.9e-19;
Les 124; Conservative 72; Mismatches 192; Indels
        A;Introns: 36/3; 183/1; 189/1; 300/2; 412/3
C;Superfamily: nucleoside triphosphatase chromatin-associated
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A; Residues: 1-518 <DIE>
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Compugen Ltd
 GenCore version
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OM protein - protein search, using sw model

7, 2005, 12:50:51; Search time 62.0612 Seconds (without alignments) 3655.279 Million cell updates/sec March Run on:

1 GLTQNKALPENVKYGIVLDA......ThMIPAEQPLSTPLSHSTYV 443 US-09-835-147A-2_COPY_36_478 2369 Perfect score: Sequence:

BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

Searched:

1612378 Total number of hits satisfying chosen parameters: 1612378 seqs, 512079187 residues

Minimum DB seq length: 0 Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

UniProt_03:*
1: uniprot_sprot:*
2: uniprot_trembl:* Database

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

	Description	P49961 homo sapien	P55772 mus musculu		Q921q6 mus musculu			Q9myu4 sus scrofa	O18956 bos taurus	Q8ceb1 mus musculu	Q6dfs1 xenopus tro					-	brachy	035795 rattus norv	O55026 mus musculu	Q921r1 mus musculu	Q7t014 brachydanio	-		Q66164 brachydanio	Q6nvi9 xenopus tro	Q80z26 rattus norv	O75355 homo sapien	homod		Q8bfw6 m mus muscu	Q6zm68 brachydanio	Q8n6k2 homo sapien
SUMMARIES	a ID	L ENP1 HUMAN	1 ENP1_MOUSE	2 Q8CD <u>V</u> 7	2 Q921Q6	2 Q86VV3	1 ENP1_RAT	L ENP1_PIG	L ENP1_BOVIN	2 Q8CEB1	2 Q6DFS1	2 Q6GP74	2 Q6DC46	2 Q6UQ22	L ENP1_CHICK	2 Q90x <u>6</u> 6	2 Q6ZM69	L ENP2_RAT	L ENP2_MOUSE	2 Q921R1	2 Q7T014	L ENP2_CHICK	2 Q6GNA4	2 Q66L64	S Q6NVI9	2 Q80226	L ENP3_HUMAN	L ENP2_HUMAN	2 Q6UVZ0	2 QBBFW6	2 Q62M68	2 Q8N6K2
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d	Query Match	100.0	78.3	78.3	78.1	77.2	9.9/	73.3	72.2	•	Η.	0	55.6	44.2	42.4	42.1	41.1	41.0	40.7	40.7	40.6	40.2	39.6	39.6	39.4	38.6	38.5	38.3	38.3	38.1	36.0	34.8
	Score	2369	1855	1855	1850	1829	1814.5	1736	1711.5	1584	1456	1426	1316.5	1046.5	1004	997	974	971.5	964.5	964.5	962	953	939	937.5	933	913.5	911	907.5	906.5	902.5	LO.	825.5
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07YTA4 Q8K0L2 Q8K0L2 Q9XI 62 Q9XI 62 Q94AP8 Q94BI D8 Q6CV2 Q6CCV2 Q9ABT7 Q6M37	080612
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620.58 596.5 506.5 504 491 481.491 482.5 469.5	465.5
8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	45

ALIGNMENTS

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TISSUE=Placenta;
MEDLINE=99332082; PubMed=10405171; DOI=10.1016/S0014-5793(99)00751-6;
Matsumoto M., Sakurai Y., Kokubo T., Yagi H., Makita K., Matsui T.,
Titani K., Fujimura Y., Narita N.;
"The CDNA cloning of human placental ecto-ATP diphosphohydrolases I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Christoforidis S., Papamarcaki T., Galaris D., Kellner'R., Tsolas O., "Purification and properties of human placental ATP
                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A. (ISOFORM VASCULAR).
MEDILINE-9501846; PubMed=7930580;
Maliazewski C.R., Delespesse G.J.T., Schoenborn M.A., Armitage R.J.,
Fanslow W.C., Nakajima T., Baker E., Sutherland G.R., Poindexter K.,
Birks C., Albert A., Friend D., Gimpel S.D., Gayle R.B. III;
"The CD39 lymphoid cell activation antigen. Molecular cloning and
structural characterization.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE OF 1-30; 49-65; 94-97; 88-93; 193-223; 245-265; 382-385 AND 399-405 (ISOFORM PLACENTAL I).
TISSUE=Placenta;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE OF 240-242; 162-166; 185-189; 210-223; 243-249 AND 288-297.
ENPI HUMAN STANDARD; PRT; 510 AA.
P49961; 09U009; 09Y309;
01-0CT-1996 (Rel. 34, Created)
01-0CT-1996 (Rel. 34, Last sequence update)
25-0CT-2004 (Rel. 45, Last annotation update)
Ectonucleoside triphosphate diphosphohydrolase (RC 3.6.1.5)
(MYPDase) (Ecto-apyrase) (CD39 antigen)
Name=EMTPO1; Synowyms=CD39;
Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A. (ISOFORM VASCULAR).
TISSUE-Unbilical vein;
MEDLINE=9714943; Pubbed=8996251;
RObson S.C., Kaczmarek E., Siegel J.B., Candinas D., Koziak K.,
Millan M., Hancock W.W., Bach F.H.;
"Loss of ATP diphosphohydrolase activity with endothelial cell
activation.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A. (ISOFORMS PLACENTAL I AND PLACENTAL II).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE=96096723; PubMed=8529670;
                                                                                                                                                                                                                                                                                                                                                                                                               J. Immunol. 153:3574-3583(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eur. J. Biochem. 234:66-74(1995)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     tivation.";
Exp. Med. 185:153-163(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEBS Lett. 453:335-340(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      diphosphohydrolase.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Name=Vasgular;
Isold=b99561-1; Sequence=Displayed;
Isold=b99561-2; Sequence=VSP_003607;
Name=Placental II;
Name=Placental II; Sequence=VSP_003607, VSP_003608, VSP_003609;
ISOld=P49961-3; Sequence=VSP_003607, VSP_003608, VSP_003609;
TISSUE SPECIFICITY: Expressed primarily on activated lymphoid cells. Also expressed in endothelial tissues. The vascular isoform and the placental isoform II are present in both placenta and umbilical vein, whereas placental isoform I is present in placenta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDINE-20107721; PubMed=10636909; DOI=10.1074/jbc.275.3.2057; Koziak K., Kaczmarek E., Kittel A., Sevigny J., Blusztajn J.K., Schulte Am Ebch J. II, Imai M., Guckelberger O., Goepfert C., Qawi I.,
             Makita K., Shimoyama T., Sakurai Y., Yagi H., Matsumoto M., Narita N., Sakamoto Y., Saito S., Ikeda Y., Suzuki M., Titani K., Fujimura Y., "Placental ecto-ATP diphosphohydrolase: its structural feature distinct from CD39, localization and inhibition on shear-induced platelet aggregation.";

Int. J. Hematol. 68:297-310(1998).
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J. Biol. Chem. 275:2057-2062(2000).

J. Biol. Chem. 275:2057-2062(2000).

J. Biol. Chem. 275:2057-2062(2000).

J. Biol. Chem. 275:2057-2062(2000).

J. Biol. Chem. 275:2057-2062(2000).

J. Chem. Chem. Could hydrolyze ATP and hype prevention of platelet aggregation.

Hydrolyzes ATP and ADP equally well.

J. CATALYTIC ACTIVITY: ATP + 2 H(2)0 = AMP + 2 phosphate.

J. COPACTOR: Requires calcium and magnesium.

J. SUBURIT: Homodimer; disulfide-linked (By similarity).

J. SUBCELLULAR LOCATION: Integral membrane protein (Potential).
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MISCELLANEOUS: Optimal pH is 7.0-7.5 with ATP as substrate and 7.5-8.0 with ADP.
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                                                                                                                                                                                                                                                                                                                                                            MEDLINE=96215267; PubMed=8626624; DOI=10.1074/jbc.271.17.10391; Wang T.F., Guidotti G.; "CD39 is an ecto-(Ca2+,Mg2+)-apyrase."; J. Biol. Chem. 271:9898-9901(1996).
                                                                                                                                                                                       MEDLINE=97115858; PubMed=8955160; DOI=10.1074/jbc.271.51.33116; Kazamarek E.; Koziak K.; Sevigny J., Slegel J.B., Anrather J., Beaudoin A.R., Bach F.H., Robson S.C.; Indentification and characterization of CD39/vascular ATP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SIMILARITY: Belongs to the GDA1 / CD39 NTPase family. DATABASE: NAME=PROW, NOTE=CD guide CD39 entry; WWW="http://www.ncbi.nlm.nih.gov/prow/cd/cd39.htm".
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                                                                                                                                                                                                                                                                                                   Biol. Chem. 271:33116-33122(1996)
MEDLINE=99062444; PubMed=9846014;
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EMBL; U87967; AAB47572.1; -.
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Cytoplasmic (Potential).
Cytoplasmic (Potential).
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N-linked (GlCNAc. .) (Potential).
N-linked (GlCNAc. .) (Potential).
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PFTSAPPAPISCCFLFQIQ (in isoform Placental
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Mrissing (in isoform Placental II)
//Frid=VSP 003609.
SS -> G (in Ref. 5).
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                                                            Glycoprotein; Hydrolase; Lipoprotein; Magnesium; Palmitate, Transmembrane.
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                                                                                     Cytoplasmic (Potential).
Potential.
Extracellular (Potential).
GO; GO:0005887; C:integral to plasma membrane; TAS. GO; GO:0007596; P:blood coagulation; TAS. InterPro; IPR000407; GDA1_CD39_NTPase. PF01150; GDA1_CD39; 1. PROSITE; PS011238; GDA1_CD39; NTPASE; 1. Alternative splicing; Antigen; Calcium; Direct protein
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T -> TGET (in Ref. 5).
V -> Y (in Ref. 5).
; BAD87D2499649159 CRC64;
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RESULT 2 ENP1_MOUSE

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PIR; 156242; 156242. Genew; HGNC:3363; ENTPD1. MIM; 601752; -.

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R GO; GO:0005605; C:basel lamina; IDA.
R GO; GO:0005605; C:basel lamina; IDA.
R GO; GO:0001605; P:apyrase activity; IDA.
R GO; GO:0007186; P:APP catabolism; IDA.
R GO; GO:0007186; P:Portine ciupled receptor protein signalin. . .; IDA.
R GO; GO:000181; P:purine ribonucleoside diphosphate catabolism; IDA.
R GO; GO:000181; P:purine ribonucleoside diphosphate catabolism; IDA.
R RO; GO:0000407; GDA1_CD39_NTPase.
R PROSITE; PS01238; GDA1_CD39; NTPASE; 1
R PROSITE; PS01238; GDA1_CD39; NTPASE; 1
NA Antigen; Calcium; Glycoprotein; Hydrolase; Magnesium; Transmembrane.
T TRANSMEM 17 37 Potential.
T PRANSMEM 17 37 Potential.
T DOMAIN 38 478 Extracellular (Potential).
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(ytoganet. Cell Genet. 81:287-289(1998).

-I-FUNCTION: In the nervous system, could hydrolyze ATP and other nucleotides to regulate purinergic neurotransmission. Could also be implicated in the prevention of platelet aggregation. Hydrolyzes ATP and ADP equally well.

-I-CATALYTIC ACTIVITY: ATP + 2 H(12)O = AMP + 2 phosphate.

-I-COPACTOR: Requires calcium and magnesium (By similarity).

-I-SUBUNIT: Homodimer; disulfide-linked (By similarity).

-I-SUBCLIULAR LOCATION: Integral membrane protein (Potential).

-I-SIMILARITY: Belongs to the GDAI / CD39 NTPase family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STRAIN=129/SvJ;
MEDLINE=98399871; PubMed=9730622;
Schoenborn M.A., Jenkins N.A., Copeland N.G., Gilbert D.J.,
Gayle R.B. III, Maliszewski C.R.;
"Gene structure and chromosome location of mouse Cd39 coding for an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      R.J.
                                                                                                                                                                                         cell
                                                                                                                                                                                                                                                                                                                         Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Butheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDINE=95015846; PubMed=7930580;
Maliszewski C.R., Delespesse G.J.T., Schoenborn M.A., Armitage R.J. Branslow W.C., Nakajima T., Baker E., Sutherland G.R., Poindexter Fers C., Alpert A., Friend D., Gimpel S.D., Gayle R.B. III;
"The CD39 lymphoid cell activation antigen. Molecular cloning and structural characterization.";
                                                         01-NOV-1997 (Rel. 35, Created)
01-NOV-1997 (Rel. 35, Last sequence update)
01-NOV-1997 (Rel. 35, Last sequence update)
Ectonucleoside triphosphate diphosphohydrolase 1 (EC 3.6.1.5)
(NTPDasel) {Ecto-ATP diphosphohydrolase} (ATPDase) (Lymphoid cattivation antigen) (Ecto-apyrase) (CD39 antigen).
Mume=Entpd1; Synonyms=Cd39;
Mus musculus (Mouse).
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74 AF041812; AAC83203.1; JOINED.
74 AF041813; AAC83203.1; JOINED.
75 AF041814; AAC83203.1; JOINED.
75 AF041815; AAC83203.1; JOINED.
76 AF041815; AAC83203.1; JOINED.
76 AF041815; AAC83203.1; JOINED.
      PRT;
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STANDARD:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            215 GASTQITFVPQNSTIESPENSLQFRLYGEDYTVYTHSFLCYGKDQALWQKLAKDIQVSSG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEK--VSQEKVTEMMKKFCAQP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                395 WEBTKTSYPSVKEKYLSEYCFSGAYILS-LLQGYNPTDSSWEQIHFWGKIKDSNAGWTLG
                                                                                                                                                                                                                                                                 GLTQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFV
                                                                                                                                                                                                                                                                                                                                                         OKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERS
                                                                                                                                                                                                                                                                                                                                                                                  121 LSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181 GASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WEBIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STRAIN=C57BL/6J; TISSUE=Testis;
MEDLINE=99279253; PubMed=10349636; DOI=10.1016/S0076-6879(99)03004-9;
                                                                                                                                                                                                                          Gaps
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Mammalia; Butheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
NCBI_TaxID=10090;
(Glonac...) (Potential).
(Glonac...) (Potential).
(Glonac...) (Potential).
(Glonac...) (Potential).
(Glonac...) (Potential).
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01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
01-007-2003 (TrEMBLrel. 25, Last annoctation update)
Mus musculus adult male testis CDNA, RIKEN full-length enriched
11brary, clone:4921311005 product:ectonucleoside triphosphate
diphosphohydrolase 1, full insert sequence.
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W, BEGAGI13DZE13930 CRCG4;
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MEDLINE=21085660; PubMed=11217851; DOI=10.1038/35055500;
RIKEN FANTOM Consortium;
                                                                                                                                                                          78.3%; Score 1855; DB 1; 76.4%; Pred. No. 1.8e-137; iive 46; Mismatches 55;
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"High-efficiency full-length cDNA cloning.";
Meth. Enzymol. 303:19-44(1999).
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226 N-
291 N-
428 N-
457 N-
57205 MW;
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  73
226
291
333
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510 AA;
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304 GVLKDPCFNPGYEKVVNVSELYGTPCTKRFEKKLPFDQFRIQGTGDYEQCHQSILELFNN 363
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                                                 244 GASTQITFVPQNSTIESPENSLQFRLYGEDYTVYTHSFLCYGKDQALWQKLAKDIQVSSG
                           LSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLG
                                                                                                                GKDOALWOKLAKDIOVASN
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Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus.
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Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002)
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MGD; MGI:102805; Entpd1.
GO; GC:0005605; C:bsaal lamina; IDA.
GO; GC:0016021; C:integral to membrane;
GO; GC:0004050; F:apyrase activity; IDA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                           419 YMLNLTNMIPAEQPLSTPLSHSTYV 443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    483 YMLNLTNMIPAEQPLSPPLPHSTYI 507
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         092106 PRELIMINARY; PRT; 092106; 01-DEC-2001 (TrEMBLrel. 19, Created) 01-DEC-2001 (TrEMBLrel. 19, Last seq) 01-OCT-2003 (TrEMBLrel. 25, Last annotation)
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Mus musculus (Mouse)
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Adachi J. Aizawa K., Akimura T., Arakawa T., Bono H., Carninci P., Adachi J., Aizawa K., Akimura T., Hara A., Hashizume W., Hayashida K., Hayatsu N., Hiramoto K., Hiracka T., Hirozane T., Hayashida K., Ishii Y., Itoh M., Kagawa I., Kasukawa T., A Katoh H., Kawai J., Kojima Y., Kondo S., Konno H., Kouda M., Koya S., A Kurihara C., Matsuyama T., Myazaki A., Murata M., Nakamura M., Koya S., Nishi K., Nomura K., Numazaki R., Ohno M., Ohsato N., Sano H., Saito R., Saito H., Sakai C., Sakai M., Sakazue N., Sano H., A Sasaki D., Shibata K., Shinagawa A., Shiraki T., Sogabe Y., Tagami M., Tagawa A., Takahashi F., Takaku-Akahira S., Takeda Y., Tanaka T., Toya T., Yasunishi A., Muramatsu M., Hayashizaki Y., E. Submitted (JUL-2001) to the EMBL/GenBank/DDBJ databases.
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GO; 00016021; C:basdl lamina; IDA.
GO; GO:000615; C:basdl lamina; IDA.
GO; GO:0004050; F:apyrase activity; IDA.
GO; GO:00004050; P:ATP catabolism; IDA.
GO; GO:0007186; P:G-protein coupled receptor protein signalin. . .; IDA.
GO; GO:0003181; P:purine ribonucleoside diphosphate catabolism; IDA.
InterPro; IPR000407; GDAL GD39_NTPase.
Fram. PR01150: GDA1 CD39_NTPase.
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                                                                                                       the RIKEN Genome Exploration Research Group Phase I & II Team; "Analysis of the mouse transcriptome based on functional annotation of 60,770 full-length cDNAs."; Nature 420:563-573(2002).
                                                                                                                                                                                                                                   STRAIN=C57BL/6J; TISSUB=Testis;
MEDLINE=20499374; PubMed=11042159, DOI=10.1101/gr.145100;
Carninci P., Shibata Y., Hayatsu N., Sugahara Y., Shibata K., Itoh M.,
Konno H., Okazaki Y., Muramatsu M., Hayashizaki Y.,
Normalization and subtraction of cap-trapper-selected cDNAs to
prepare full-length cDNA libraries for rapid discovery of new genes.";
Genome Res. 10:1617-1630(2000).
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                                                                                                                                                                                                                                                                                                                                                                                                                            STRAIN=CS7BL/G1 TISSUE=Testis;
MEDLINE=CS7BL/G21 TISSUE=Testis;
Shibata K., Itoh M., Aizawa K., Nagaoka S., Sasaki N., Carninci P.,
Shibata K., Itoh M., Aizawa K., Nagaoka S., Sasaki N., Carninci P.,
Konno H., Akiyama J., Nishi K., Kiteunai T., Tashiro H., Itoh M.,
Sumi N., Ishii Y., Nakamura S., Hazama M., Nishine T., Harada A.,
Yamamoto R., Matsumoto H., Sakaguchi S., Ikegami T., Kashiwagi K.,
Pujiwake S., Inoue K., Togawa Y., Izawa M., Ohara E., Wattahiki M.,
Yoneda Y., Ishikawa T., Ozawa K., Tanaka T., Matsuura S., Kawai J.,
Nickan integrated sequence analysis (RISA) system-384-format
Sequencing pipeline with 384 multicapillary sequencer.";
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                                                            STRAIN=C57BL/6J; TISSUE=Testis; The FANTOM Consortium,
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Nature 409:685-690(2001)
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NCBI_TaxID=10116;
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MEDINE-22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;

A Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,

A Rausner R.D., Collins F.S., Wagner L., Shemmen C.M., Schuler G.D.,

A Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,

A Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

B Lownstein M.J., Updin T.B., Toshiyuki S., Carninci P., Prange C.,

Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,

Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,

Richards S., Worlby K.C., Hale S., Garcia A.M., Gabbs R.A.,

Willalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,

A Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,

A Rahey J., Helton B., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
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                           IDA.
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GO; GO:0006200; P:ATP catabolism; IDA.
GO; GO:0001186; P:G-protein coupled receptor protein signalin. ..;
GO; GO:0030168; P:platelet activation; IDA.
GO; GO:0030181; P:putine ribonucleoside diphosphate catabolism; IDA.
PERM: PF01150; GDA CD39; 1.
PROSITE: PS01238; GDA1_CD39_NTPASE; 1.
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                                                                                                                                                                                 Length 510;
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                                                                                                        51038; GDA1_CD39 NTPASE; 1.
510 AA; 57176 MW; E77BB644AE1413A0 CRC64;
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Last annotation update)
                                                                                                                                                                            78.1%; Score 1850; DB 2; 76.2%; Pred. No. 4.5e-137; ive 46; Mismatches 56;
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Mammalia; Eutheria; Primates;
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                                                                                                                                                                                                                        Matches 339; Conservative
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9
Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G., Blakesley R.W., Touchman J.W., Green B.D., Dickson M.C., Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S., Krzywinski M.I., Skalska U., Smailus D.E., Schnerch A., Schein J.E., Jones S.J., Marra M.A.; Generation and initial analysis of more than 15,000 full-length human and mouse cDNA sequences."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VPYETNNQETFGALDLGGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DQALWQKLAKDIQVASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQG
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
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25-OCT-2004 (Rel. 45, Last annotation update)
Ectonucleoside triphosphate diphosphohydrolase 1 (EC 3.6.1.5)
(NTPDasel) (Ecto-ATP diphosphohydrolase) (ATPDase) (Lymphoid eactivation antigen) (Ecto-apprase) (CD39 antigen).
Name=Entpd1; Synonyms=Cd39;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 2; Length 372;
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"Characterization of brain ecto-apyrase: evidence for only apyrase (CD39) gene.";
Brain Res. Mol. Brain Res. 47:295-302(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                 Strausberg R.;
Submitted (WAR-2003) to the EMBL/GenBank/DDBJ databases.
EMBL; BC047664; AMH47664.1; -.
GO; GO:0016787; F:hydrolase activity; IEA.
InterPro; IPR00407; GDAl_CD39_NTPase.
Pfam; PP01150; GDAl_CD39; 1.
PROSITE; PS01238; GDAl_CD39 NTPASE; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               42731 MW; A8BIDE1366356EE3 CRC64;
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STRAIN=Sprague-Dawley; TISSUE=Brain, and Hippocampus;
PubMed=9221928;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; Pred. No. 1.4e-135; 0; Mismatches 0;
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Matches 340; Conservative
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NCBI_TaxID=9823;
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                                                                                                                                                                                        STRAIN-Sprague-Dawley, TISSUE-Brain, MEDLINE-Sprague-Dawley, TISSUE-Brain, MEDLINE-98031057; PubMed-9364474; DOI-10.1016/S0028-3908(97)00115-9; Kegel B., Braun N., Heine P., Maliszewski C.R., Zimmermann H.; "An ecto-ATPase and an ecto-ATP diphosphohydrolase are expressed in
                                                                                                                                                                                                                                                                                                         Gaps
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N-linked (GlCNAC. .) (Potential).
N-linked (GLCNAC. .) (Potential).
N-linked (GLCNAC. .) (Potential).
N-linked (GLCNAC. .) (Potential).
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F -> L (in Ref. 2).
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                                                                                                                       Brain Res. Mol. Brain Res. 73:85-92(1999)
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511 AA;
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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation-the Buropean Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way
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275 GILKDPCFYPGYKKVVNVSELYGTPCTKRFEKKLPFNQFQVQGTGDYEQCHQSILKFFNN
                                                                                                                                                                                                                                                                                              diphosphohydrolase.";

U. Biol. Chem. 271:33116-33122(1996).

-! FUNCTION: In the nervous system, could hydrolyze ATP and other nucleotides to regulate purinergic neurotransmission. Could also be implicated in the prevention of platelet aggregation. Hydrolyzes ATP and ADP equally well.

-! CATALVIC ACTIVITY: ATP + 2 H(2)0 = AMP + 2 phosphate.

-! CATALVIIC ACTIVITY: ATP + 2 H(2)0 = AMP + 2 phosphate.

-! CORACTOR: Requires calcium and magnesium (By similarity).

-! SUBGNIT: Homodimer; disulfide-linked (By similarity).

-! SUBCRITIVITY: Highest expression found in vascular endothelium, smooth muscle, spleen and lung.
GASTOVTFVPONOTIESPDNALOFRLYGKDYNVYTHSFLCYGKDQALWOKLAKDIQVASN
                                                                                                                                                                                                                                                      301 SYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFL-NLTSEKV-SQEKVTEMMKKFCAQP
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Cetartiodactyla, Suina, Suidae, Sus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Lemmens R., Vanduffel L., Kittel A., Beaudoin A.R., Benrezzak O.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=97115868; PubMed=8955160; DOI=10.1074/jbc.271.51.33116; Raczmarek E., Koziak K., Sevigny J., Siegel J.B., Anrather J., Beaudoin A.R., Bach F.H., Robson S.C.; "Identification and characterization of CD39/vascular ATP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               05-JUL-2001 (Rel. 40, Last sequence update)
05-JUL-2004 (Rel. 44, Last annotation update)
Rctonucleoside triphosphate diphosphohydrolase 1 (RC 3.6.1.5)
(NTPDase1) (Ecto-ATP diphosphohydrolase) (ATPDase)
activation antigen) (Ecto-apyrase) (CD39 antigen).
Name-ENTPD1; Synonyms-CD39;
Sus scrofa (Pig).
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Antigen, Ca
Magnesium,
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                (See http://www.isb-sib.ch/announce/
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InterPro; IPR000407; GDA1_CD39_NTPase.
Pfam; PF01150; GDA1_CD39; 1.
PROSITE; PS01238; GDA1_CD39 NTPASE; 1.
Antigen; Calcium; Direct protein sequencing; Glycoprotein; Hydrolase; Magnesium; Transmembrane.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
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                                                                                                                                                                                                                                     54 kDa subunit
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              entities requires a license agreement (or send an email to license@isb-sib.ch)
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ENP1 BOVIN STANDARD;
1D ENP1 BOVIN STANDARD;
1AC 018956;
DT 16-OCT-2001 (Rel. 40, Created)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 GLIQNKALPENVKYGIVLDAGSSHISLYIYKWPAEKENDIGVVHQVEECRVKGPGISKFV
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Antigen; Calcium; Direct protein sequencing; Glycoprotein; Hydrolase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gape
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                                                                                                                                                                                                                 Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
Bovinae; Bos.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -!- CATALYTIC ACTIVITY: ATP + 2 H(2)0 = AMP + 2 phosphate.
-!- COFACTOR: Requires calcium and magnesium.
-!- SUBUNIT; Homodimer; disulfide-linked (By similarity).
-!- SUBCELLULAR LOCATION: Integral membrane protein (Potential).
-!- SIMILARITY: Belongs to the GDA1 / CD39 NTPase family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=971151589; PubMed=8955160; DOI=10.1074/jbc.271.51.33116; Kaczmarek E., Koziak K., Sevigny J., Siegel J.B., Anrather J., Beaudoin A.R., Bach F.H., Robson S.C.; Identification and characterization of CD39/vascular ATP diphosphohydrolase."; J. Biol. Chem. 271:33116-33122(1996)

-!- FUNCTION: In the nervous system, could hydrolyze ATP and oth nucleotides to regulate purinergic neurotransmission. Could be implicated in the prevention of platelet aggregation. Hydrolyzes ATP and ADP equally well.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (Potential). (Potential). (Potential).
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16-OCT-2001 (Rel. 40, Last sequence update)
05-UTL-2004 (Rel. 44, Last amnotation update)
Ectonucleoside triphosphate diphosphohydrolase 1 (EC 3.6.1.5)
(NTPDasel) (Ecto-ATP diphosphohydrolase) (ATPDase) (Lymphoid activation antigen) (CD39 antigen) (Ecto-apyrase).

Name-ENTPD1; Synonyms-CD39;
Bos taurus (Bovino)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE OF 97-103; 123-133; 136-140; 145-168 AND 459-471.
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// Pred. No. 3.7e-126;
64; Mismatches 65; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Chang A.S., Garcia R.L., Chang S.M., Schilling W.P.;
Submitted (MAY-1997) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Potential.
Extracellular (Potential).
Potential.
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INV -> CGF (in Ref. 2).

K -> V (in Ref. 2).

K -> V (in Ref. 2).
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N-linked (GlCNAc. .) (EN - Linked (GLCNAc. .) (EN - N (in Ref. 2).
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InterPro; IPR000407; GDA1_CD39_NTPase.
Pfam; PF01150; GDA1_CD39; 1.
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                                                                                                                                                                                  OKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERS
                                                       GASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASN
                                                                                                                                                                                                                                                                                                    |::|||| |:::|||| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |::|| |
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STRAIN=CS7BL/6J; TISSUE=Skin;
MEDLINE=99279253; PubMed=10349636; DOI=10.1016/S0076-6879(99)03004-9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SZJUENCE FROM N.A.
STRAIN-C57BL/6J; TISSUE-Skin;
MEDLINE-20499374; PubMed=11042159; DOI=10.1101/gr.145100;
Carninci P., Shibata Y., Hayatsu N., Sugahara Y., Shibata K., Itoh !
Konno H., Okazaki Y., Muramatsu M., Hayashizaki Y.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus.
NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "Functional annotation of a full-length mouse cDNA collection."; Nature 409:685-690(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-MAR-2003 (TrEMBLrel. 23, Created)
01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
Mus musculus 10 days neonate skin cDNA, RIKEN full-length enri
library, clope:473419M16 product:ectonucleoside triphosphate
diphosphohydrolase 1, full insert sequence. (Fragment)
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MEDLINE=21085660; PubMed=11217851; DOI=10.1038/35055500;
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"High-efficiency full-length cDNA cloning.";
Meth. Enzymol. 303:19-44(1999).
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The FANTOM Consortium,
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Mus musculus
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"Normalization and subtraction of cap-trapper-selected cDNAs to prepare full-length cDNA libraries for rapid discovery of new genes."; Genome Res. 10:1617-1630(2000).
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                                                                                            STRAIN-C57BL/64; TISSUE=Skin; MEDLINE=20530913; PubMed=11076861; DOI=10.1101/gr.152600; Shibbata K., Itoh M., Alzawa K., Nagaoka S., Sasakin N., Carninci P., Konno H., Akiyama J., Nishin K., Hazama M., Nishino H., Itoh M., Sumi N., Ishii Y., Nakamura S., Hazama M., Nishine T., Harada A., Yamamoto R., Matsunoto H., Sakaguchi S., Ikegami T., Kashiiwagi K., Fujiwake S., Inoue K., Togawa W., Izawa M., Ohara E., Watshiwagi K., Fujiwake S., Ishikawa T., Ozawa K., Tanaka T., Matsuura S., Kawai J., Okazaki Y., Muramatsu M., Inoue Y., Kira A., Hayashizaki Y.; RIKEN integrated sequence analysis (RISA) system-384-format Genome Res. 10:1757-1771(2000).
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420 AA; 47261 MW; 1369E747CD4B9CE7 CRC64;
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                                                              216 ASTQITFESKRE-IESQENSLHFRLYGKSYDIYTHSFLCYGKDQALRLQIANSIKDATDS 274
                                                                                                                                                                         ASTOVIFVPONOTIESPDNALOFRLYGKDYNVYTHSFLCYGKDOALWOKLAKDIOVASNE
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                                                                                                                                             242 ILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTS
                                                                                                                                                                                                                                                   302 YCPYSOCAFNGIFLPPLOGDFGAFSAFYFVMKFLNLTSEKVSOEKVTEMMKKFCAQPWEE
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Amphibia, Batrachia, Anura, Mesobatrachia, Pipoldes, Pipidae;
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Klein S.L., Strausberg R.L., Wagner L., Pontius J., Clifton S.W.,
Richardson P.;
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Last sequence update)
Last annotation update)
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Klein S., Gerhard D.S.;
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Name=MGC80631;
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05-JUL-2004
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Ratausberg P.L., Feingold E.A., Grouse L.H., Derge J.G.,

Riausherg P.L., Feingold E.A., Grouse L.H., Derge J.G.,

Riausher P.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,

Riatchenko L., Marusins K.H., Farmer L., Sheneer C.F., Bhat N.K.,

Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

Bitchenko L., Marusins K., Farmer A.A., Rubin G.M., Hong L.,

Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

Raha S.A., McGwan P.J., McKernan K.J., Malek J.A., Gunarathe P.H.,

Richards S.A., McGwan P.J., McKernan K.J., Malek J.A., Gunarathe P.H.,

Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

Villalon D.K., Muzny D.M., Sodergren B.J., Lu X., Gibbs R.A.,

Rahesley J., Helton B., Ketreman M., Madan A., Rodrigues S., Sanchez A.,

Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,

Makesley R.W., Touchman J.W., Green E.D., Dickson M.C.,

Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,

Jones S.J., Marra M.J.,

"Generation and initial analysis of more than 15,000 full-length human
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300 PC$KSWBETKTSYPSVKEKYLSEYCFSGAYILS-LLQCYNFTGSSWBQIHFWGKIKDSNA 358
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Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Amphibia, Batrachia, Anura, Mesobatrachia, Pipoidea, Pipidae;
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59.9%; Pred. No. 4.9e-106;
ive 76; Mismatches 99; Indels
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Submitted (JUL-2004) to the EMBL/GenBank/DDBJ databases.
EMBL; BCO76662; AAH76662.1; -.
GO; GO:0016787; F:hydrolase activity; IEA.
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Pfam, PR01150; GDA1_CD39; 1.
PROSITE; PS01238; GDA1_CD39_NTPASE; 1.
SEQUENCE 508 AA; 57322 MW; 12CABACOSBEABDEB CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
                                                                                                                                                                                                                                                                                                                                                              Last sequence update)
Last annotation update)
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                                                                                                                      359 GWTLGYMLNLTNMIPAEQPLSPPLPHSTYI 388
                                                                                    414 GWTLGYMLNLTNMIPAEQPLSTPLSHSTYV 443
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(TrEMBLrel. 28, 1
(TrEMBLrel. 28, 1
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                                                                                                                                                                                                                                                                            PRELIMINARY;
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25-OCT-2004 (TrEMBLrel
Entpdl-prov protein.
Name=entpdl-prov;
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                                                                                                                                                                                                                                                                                                                               25-OCT-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Xenopodinae;
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Matches
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Name=Entpd8;
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                                                                                                                                                                                                                                                                                             335 RCTYSHCSFNGIPQPTLDGTFGAFSAYYFVMDFLKLTKGEISLDKVKETVERHCSKPWDE
                                                                                                                                                                                                                                                                                                                                                                                                                                       PERAINSINGAPORE 10cal strain, TISSUE=Embryo;
PubMed=12477932; DOI=10 1073/pnas.242603899;
PubMed=12477932; DOI=10 1073/pnas.242603899;
PubMed=12477932; DOI=10 1073/pnas.242603899;
PubMed=12477932; DOI=10 1073/pnas.242603899;
Rirausner R.D., Collins F.S., Wagner L., Shemmen C.M., Schuler G.D., Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.P., Bhat N.K., Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L., Stapleton M., Soares M.B., Parnaldo M.F., Casavant T.L., Scheetz T.E., Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C., Brownstein M.J., McEwan P.J., McKernan K.J., Malek J.A., Gunaranne P.H., Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
                                                                                                                                          2 LTQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQ
                                                                                                                                                                                                    122 SNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGG
                                                                                                                                                                                                                                                  ILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFELQGIGNYQQCHQSILELFNTS
                                                                                                                                                                                                                                                                                                                                                                            302 YCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEE
                                                                                                                                                                                                                                                                                                                                                                                                                         362 IKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYML
                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Zgc:100819 protein.
Name=zgc:100819;
Brachydanio rerio (Zebrafish) (Danio rerio).
Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
Cyprinidae; Danio.
NCBI_TaxID=7955;
                                                                                                                    5
                                                                                              Length 508;
                                                                                            60.2%; Score 1426; DB 2; Length 5
59.0%; Pred. No. 1.1e-103;
ive 73; Mismatches 106; Indels
Submitted (JUN-2004) to the EMBL/GenBank/DDBJ databases.
EMBL; BC073267; AAH73267.1; -.
GO; GO:0016787; F:hydrolase activity; IEA.
InterPro; IPR000407; GDBJ_CD39_NTPase.
Pfam; PF01150; GDA1_CD39; 1.
PROSITE; PS01238; GDA1_CD39_NTPASE; 1.
                                                          DA1 CD39 NTPASE; 1.
57049 MW; BD205818A06C523B CRC64;
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Last sequence update)
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                                                                                                       Best Local Similarity 59.09
Matches 260; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRELIMINARY;
                                                                      508 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
                                                                      SEQUENCE
                                                                                             Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FNTSHCPYSGCSFNGVEQPTVEGKFGAFSAFFFVMDFLNLKND--SLDKTKQRLAMYCST 373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          433
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SNYPFDPQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGG 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
Mhiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,
Krzywinski M.I., Skalska U., Smailus D.E., Schnerch A., Schein J.E.,
Generation and initial analysis of more than 15,000 full-length human
and mouse CDNA sequences.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        XTYPFSYQGARILSGQEEGAFGWITVNYL---SENLR------KPAGTLGALDLGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ASTÓITFVPQ-QIIESSDNSIDFRLYGNDYHLYTHSFLCYGKDQALKLAMAEKLRSTPDK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2 LTQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ASTQVTFVPQNQT1ESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKD1QVASNE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ----ILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILEL
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Sukaryota; Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia; Butheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 2; Length 492;
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05-JUL-2004 (TrEMBLrel. 27, Last sequence update)
05-JUL-2004 (TrEMBLrel. 27, Last annotation update)
Nucleoside triphosphate diphosphohydrolase-8 (EC 3.6.1.5).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 55.6%; Score 1316.5; DB 2; Length 56.7%; Pred. No. 4.5e-95; ive 65; Mismatches 105; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        databases
                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
STRAIN-Singapore local strain; TISSUE=Embryo;
Director MGC Project of,
Submitted (JUL-2004) to the EMBL/GenBank/DDBJ databases
EMBL; BC078240; AM178240.1;
GO; GO: 0016787; F: hydrolase activity; IEA.
InterPro; IPR000407; GDA1_CD39_NTPase.
Pfam; PF01150; GDA1_CD39; 1.
EROSITE; PS011238; GDA1_CD39; NTPASE; 1.
SEQUENCE 492 AA; S5507 MW; B789AB6DFC6A032B CRC64;
                                                                                                                                                                                                                                                                              and mouse cDNA sequences.";
Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002)
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Best Local Similarity 56.7%
Matches 253; Conservative
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                                                                                                                                                                                                                                                                                                --GMLVGALDLGGASTQISFVPQGPILDQ-STQVTFRLYGANYSVYTHSYLCFGRDQILN 253
                                                                                                                                                                                                                                                                                                                                                                        QKCIAK-----DIQVASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQ 282
                                                                                                                                                                                                                                                                                                                                                                                                                  GIGNYQQCHQSILELFNTSYCP-YSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEK 341
                                                                                                                                                                                                                                                                                                                                                                                                                                                           VSQEKVTEMMKKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEH 401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -SLNIVNDIVWKFCQKPWKLVEVSYPG-QERWLRDYCASGLYILVLLLEGYKFSEETWPN 428
                                                                                                                                                                                                           NNOETFGALDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALW
                                                                                                                                                                                                1 GLTQ------NKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRV
                                                                                                                                                                                                                                          KGPGISKFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELAD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Archosauria, Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          O93295;
16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
05-JUL-2004 (Rel. 44, Last annotation update)
Ectonucleoside triphosphate diphosphohydrolase 1 (EC 3.6.1.5)
ECTONUCLEOSIDE (RCLO-ATP diphosphohydrolase) (ATPDase) (Lymphoid cell
SEQUENCE FROM N.A.
STRAIN=C57BL/6; TISSUE=Liver;
STRAIN=C57BL/6; TISSUE=Liver;
Salgonnesse F., Levesque S.A., Kukulski F., Lecka J., Robson S.C., Fernandes M.J.G., Sevigny J.;
Submitted (AUG-2003) to the EMBL/GenBank/DDBJ databases.
EMBL; AY364442; AAQ84519.1; -EMBL/GenBank/DDBJ databases.
EMBL; AY364442; F.apyrase activity; IEA.
GO; GO:0004507; F.apyrase activity; IEA.
GO; GO:0016787; F.hydrolase activity; IEA.
InterPro; IPR000407; GDA1_CD39_NTPASE.
PFam; PF01150; GDA1_CD39_NTPASE; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=98298108; PubMed=9632655; DOI=10.1074/jbc.273.26.16043; Nagy A.K., Knowles A.F., Nagami G.T.; "Molecular cloning of the chicken oviduct ecto-AFP-
                                                                                                                                                                             31;
                                                                                                                                                     44.2%; Score 1046.5; DB 2; Length 497; 47.2%; Pred. No. 8.5e-74; ive 75; Mismatches 132; Indels 31;
                                                                                                                                  497 AA; 54650 MW; 00DE822B6EEB1BDF CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A., AND SEQUENCE OF 1-21 AND 150-156
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Name=ENTPD1; Synonyms=CD39;
Gallus gallus (Chicken).
                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STANDARD;
                                                                                                                                                                Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TISSUE=Oviduct;
                                                                                                                                                                         213;
                                                                                                                        Hydrolase.
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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the Buropean Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb.sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  68 IYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSNYPFD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8 LPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQKVNBIG
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                                                                                                                                                                                                                J. Biol. Chem. 272:25645-23652(1997).

-I- FUNCTION: In the nervous system, could hydrolyze ATP and other nucleotides to regulate purinergic neurotransmission. Could also be implicated in the prevention of platelet aggregation. Hydrolyzes ATP and ADP equally well (By similarity).

-I- CATALYTIC ACTIVITY: ATP + 2 H(2)0 = AMP + 2 phosphate.

-I- COPACTOR: Requires calcium and magnesium (By similarity).

-I- SUBGNIT: Homodimer; disulfide-linked (Probable).

-I- SUBCILULAR LOCATION: Integral membrane protein (Potential).

-I- PTM: N-glycosylated.

-I- PTM: N-glycosylated.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         InterPro; IPR000407; GDA1_CD39_NTPase.
Pfam, PF01150; GDA1_CD39; 1.
PROSITE; PS01238; GDA1_CD39_NTPASE; 1.
Antigen; Calcium; Direct protein sequencing; Glycoprotein; Hydrolase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                             ...mmunolocalization of the ecto-ATPase and ecto-apyrase in chicken gizzard and stomach. Purification and N-terminal sequence of the stomach ecto-apyrase.";
                                                                                                          MEDLINE=97442428; PubMed=9295305; DOI=10.1074/jbc.272.38.23645;
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CRC64;
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llarity 45.7%; Pred. No. 1.9e-70;
Conservative 73; Mismatches 144;
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I -> G (in Ref. 1;
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diphosphohydrolase.";
J. Biol. Chem. 273:16043-16049(1998)
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54034 MW;
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493 AA;
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                               268 -ISHPCYPKGYRRITITAEIYDSPCVPTPSMLSPAQILIVTGTGNPAACPTAILKLFNLT 326
                                                                                                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                                                                                            386 LVETPPQNKE-HLHTYCVVGLYILTLLVDGYKFDEHTWSNIHFSQKAGNADIGWTLGFML 444
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQA----LWQKLAKDIQVASNE 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            POGARIITGOEEGAYGWITINYLLG---KFSOKTRWFSIVPYETNNOETFGALDLGGAST 184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QVTFVPQNQTIESPDNALOFRLYGKDYNVYTHSFLCYGKDQA---LWQKLAKDIQVASNE 241
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                                                                                                                                  242 ILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTS
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                                                                                                                                                                                                                                                                    302 YCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEE
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01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-DTO-2003 (TrEMBLrel. 24, Last annotation update)
01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
Ecto-ATP-diphosphohydrolase (EC 3.6.1.5).
Gallus gallus (Chicken).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
Callus.
NCBL_TaxID=9031;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Knowles A.F.; Nagy A.K., Strobel R.S., Wu-Weis M.;
"Purification, characterization, cloning, and expression of the chicken liver ecco-ATP-diphosphohydrolase.";
Eur. J. Biochem. 269:1373-282(2002).
EMBL; AF426405; AAL25086.1;
GO; GO:0004050; F:apyrase activity; IEA.
GO; GO:0016787; F:hydrolase activity; IEA.
PF01150; GDA1_CD39; 1.
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42.1%; Score 997; DB 2; Length 493
Best Local Similarity 45.7%; Pred. No. 6.6e-70;
Matches 196; Conservative 72; Mismatches 145; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               422 NLTNMIPAE 430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           445 NLTNMIPTE 453
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        Qy
        362 IKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYML 421

        Db
        386 ILTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYML 421

        CQY
        422 NLTNMIPAE 430

        QY
        422 NLTNMIPAE 430

        Db
        445 NLTNMIPTE 453
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Search completed: March 7, 2005, 13:22:40 Job time : 65.0612 secs

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7, 2005, 12:50:01; Search time 72.3686 Seconds (without alignments) 2367.530 Million cell updates/sec
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Database :

SUMMARIES

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	Description	Aaw04334 Human lym	Aaw04264 Human CD3	Aay70910 Human sol	7	Aab71917 Human CD3		Human	Human	0 Human	Adr69042 Human CD3		Abo84674 Human can	Adr87821 Human CD3	н	a	S	σ	Adk60221 Angiogene	ď	2	N	Aab71918 Soluble h	Aay70913 Human sol	0	Aay70925 Human sol
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ALIGNMENTS

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pancreatic (AAW04339) ATPDases have been partially sequenced. The sequences have been found to be highly homologous to a human lymphoid cell activation antigen designated CD39 (Maliszenski et at. (1994). J. Immunol.: 3574-3583). The complete sequences of the ATPDases types I and II have not been obtained yet. Assuming that the CD39 gene product is an ATPDase type II, the use of CD39 in the reduction of platelet aggregation and of thrombogenicity may be contemplated, as well as a process of making ATPDases using the CD39 sequence (AAT38516)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Isolated ATP di.phospho:hydrolase enzymes - have anti-haemostatic activity, useful for reducing platelet aggregation and thrombogenicity.
                                                                                                                                                        ATP diphosphohydrolase, ATPDase, bovine aorta, pig pancreas, apyrase, CD39, lymphoid cell activation antigen; enzyme, platelet aggregation; thrombogenicity; anti-haemostatic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The bovine aorta (AAW04335 to AAW04338 and AAW04340) and porcine
                                                                                                                          Human lymphoid cell activation antigen CD39
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                             AAW04334 standard; protein; 510
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ATP diphosphohydrolase; transgenic animal; pig; porcine; graft; donor;
transplantation; endothelial cell; prosthetic device;
platelet aggregation; inhibition; intravascular.
                                                                                                                                                                                                                    GLTQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFV
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96US-00600383.
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                                                   Conservative
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12-FEB-1996;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; preeclampsia; embolism; platelet-associated ischaemic disorder; thromboric disorder; reocclusion; coagulopathy; deep venous thrombosis; DVT; pulmonary embolism; PE; thrombus formation; occlusion; stenosis; restenosis; anglogenesis; antianginal; cerebroprotective; antlarteriosclerotic; anticoagulant;
                                                                                 Non-human transgenic or somatic recombinant mammals, whose cells contain a heterologous DNA encoding a polypeptide (especially human CD39 protein) having ATP-diphesphohydrolase activity under cellular activation conditions is claimed. In particular the animal is a pig and its cells (or tissues or organs) can be used for transplantation. DNA coding for human CD39 is also useful for genetically modifying a mammalian cell to render it less susceptible to an inflammatcry or immunological stimulus and platelet aggregation. The modified cells can be used to prevent or alleviate a thrombotic condition. The present sequence is that of the human CD39 protein and was disclosed in J.Immunol. 153 (8) (1994) 3574-3584
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 for preventing or alleviating thrombotic condition in mammalian
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; Pred. No. 2.5e-233;
0; Mismatches 0;
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                                                      English
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Best Local Similarity 100.0%;
Matches 443; Conservative 0
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                                                    65pp;
                                                    39;
                                                                                                                                                                                                                                                                                                            510 AA;
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                                                   Claim 3;
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GLTQNKALPENVKYGI VLDAGSSHTSLYI YKWPAEKENDTGVVHQVEECRVKGPGI SKFV

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The present sequence is the human soluble CD39 protein, a cell surface molecule, having apyrase activity. It is derived from a human B cell line consolidation in the present of a MP-1. Soluble CD39 is constructed by removing the N- and C-terminal transmembrane domains. It retains the capacity to metabolise ATP and ADP at relevant concentrations and the ability to block and reverse ADP-induced platelet activation and recruitment, including platelet aggregation. Soluble CD39 polypeptides are useful for inhibiting angiogenesis. It is useful for the treatment of unstable angina, mycoardial infarction, stroke, coronary artery disease. Cor injury, atherosclerosis, peripheral vascular occlusion, preclampsia, embolism, platelet-associated ischaemic disorders including coronary, coronary and cerebral ischaemia, thrombotic disorders including coronary, coronary and cerebral sterey thrombosis, intracardiac and venous thrombosis, coagulopathy, deep venous thrombosis (DVT), pulmonary embolism (PE) and transient ischaemic attack. Soluble CD39 is also useful for preventing thrombus formation or reformation, occlusion, reocclusion, represent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New soluble CD39 polypeptides having apyrase activity, useful for inhibiting angiogenesis and treating unstable angina, myocardial infarction, stroke, coronary artery disease or injury.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100.0%; Score 2369; DB 3; Length 510; 100.0%; Pred. No. 2.5e-233; ive 0; Mismatches 0; Indels 0;
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/note= "Asn is N-glycosylated"
371. .373
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/notes- Asn is N-glycosylated"
477. .499
/label= Transmembrane_domain
                                                                                                                              "Asn is N-glycosylated"
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192. .294
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/note= "C-terminal end"
                                                                                       domain
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                                                                          7. .37
label= Transmembrane
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cardiant; vásotropic; thrombolytic
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98US-0107466P.
99US-0149010P.
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N-PSDB; AAD00205.
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                              Homo sapiens
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Best Local S
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 soluble CD39; ADP-induced platelet activation; platelet aggregation; unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; preeclampsia; embolism; platelet-associated ischaemic disorder; lung ischaemia; thrombolytic; cerebral ischaemia; thrombotic disorder; coronary artery thrombosis; cerebral artery thrombosis; intracardiac thrombosis; renous thrombosis; peripheral artery thrombosis; coagulopathy; deep venous thrombosis; peripheral artery thrombosis; coagulopathy; deep venous thrombosis; ps; pulmonary embolism; transient ischaemic attack; thrombus formation; cerebroprotective; antiateriosclerotic; vasotropic; antianginal; cardiant; coronary ischaemia; vascular occlusion.
               156 LSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLG
                                                                                                                                               GASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASN
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                                                              121 LSNYPFDFOGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLG
                                                                                                                             GASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASN
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371. 373
/note= "Asn is N-glycosylated"
457. 459
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/note= "Asn is N-glycosylated"
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477. .499
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/note= "Asn is N-glycosylated"
227. .229
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/label= Transmembrane_domain
                                                                                                                                                                                                                                                                                                                                                                                          LNLTNMIPAEQPLSTPLSHSTYV 443
                                                                                                                                                                                                                                                                                                                                                                                                           LILLINMI PAEQPLSTPLSHSTYV 478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAY70887 standard; protein; 510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human soluble CD39 protein.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAY70887
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Matches 443; Conservative

Similarity

1 GLTQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFV

ö 9

Gaps

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396 EIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYM 455
                                                    LNLTNMIPAEQPLSTPLSHSTYV 478
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                             421 LNLTNMIPAEQPLSTPLSHSTYV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 1; Page 14; 118pp; English.
                                                                                                                          AAB71917 standard; protein; 510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ;
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                                                                                                                                                                                                                                                                                                                                                                                                               (UYCO ) UNIV COLUMBIA NEW YORK
                                                                                                                                                                                                                                                                                                                                                          11-AUG-2000; 2000WO-US022060.
                                                                                                                                                                                                                                                                                                                                                                                     99US-00374586.
                                                                                                                                                                                (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 2001-202805/20.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 510 AA;
                                                                                                                                                                                                                                                                                                      WO200111949-A1.
                                                                                                                                                                                                                                                                                                                                                                                     13-AUG-1999;
                                                                                                                                                                                                                                                                            Homo sapiens
                                                                                                                                                                              09-MAY-2001
                                                                                                                                                                                                                                                                                                                                 22-FEB-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Local Sim:
Matches 443;
                                                                                                                                                                                                         Human CD39.
                                                                                                                                                                                                                                                                                                                                                                                                                                           3
                                                       456
                                                                                                                                                     AAB71917;
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                                                                                                                                                                                                                                    Human;
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                                                                                                                                                                                                                                                                                                                                        The present sequence is soluble CD39 having apyrase activity. Soluble CD39 retains the capacity of wildtype CD39 to metabolise ATP and ADP at physiologically relevant concentrations as well as the ability to block and reverse ADP-induced platelet activation and recruitment including platelet aggregation. This is used in the treatment of unstable angina, myocardial infarction, strock, coronary artery disease or injury, a therosclerosis, peripheral vascular occlusion, preeclampsia, embolism, platelet-associated ischaemia disorder including lung ischaemia, enconary ischaemia and cerebral ischaemia, thrombosis, intracardiac thrombosis, peripheral artery thrombosis, intracardiac thrombosis, peripheral artery thrombosis, intracardiac thrombosis, createry thrombosis, under thrombosis, carepty thrombosis, value consultations (DVP), pulmonary embolism (PB), cransient ischaemic artack. Soluble CD39 is also useful for preventing thrombus formation or reformation, occlusion, reocclusion, stenosis or restenosis of blood vessels or stroke
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASN 275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWE 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVWKFLNLTSEKVSQEKVTEMMKKFCAQPWE 395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYM 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           95
                                                                                                                                                                                                                                             Inhibiting platelet activation and recruitment, useful for treating a mammal suffering from unstable angina, myocardial infarction, stroke, coronary artery disease or injury, comprises administering soluble CD39 polypeptides.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GLTQNKALPENVKYGIVLDAGSSHTSLYIYKMPAEKENDTGVVHQVECRVKGPGISKFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLG
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100.0%; Pred. No. 2.5e-233;
tive 0; Mismatches 0;
                                                                                                                                                                             Marcus AJ;
                                                                                                                                                                                                                                                                                                                 Claim 2; Fig 1; 118pp; English.
                                                                              98US-0104585P.
98US-0107466P.
99US-0149010P.
                                                                                                                                    (IMMV ) IMMUNEX CORP.
(CORR ) CORNELL RES FOUND INC.
                                                      99WO-US023641,
                                                                                                                                                                             Maliszewski CR, Gayle RB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Best Local Similaricy 100.
Matches 443; Conservative
                                                                                                                                                                                                       2000-339518/29.
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                                                                                                                                                                                                                     N-PSDB; AAD00200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 510 AA;
 WO200023094-A2
                                                      13-OCT-1999;
                                                                                            06-NOV-1998;
                                                                                                         13-AUG-1999;
                     27-APR-2000
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The present sequence is the human CD39 polypeptide. The present sequence or its active fragment may be administered to treat or prevent stroke in a subject susceptible to intracranial haemorrhaging or an ischaemic disorder. The CD39 polypeptide inhibits ADP-mediated platelet aggregation or leukocyte accumulation and/or ATP by increasing ADP catabolism to the subject. It is useful for treating or preventing stroke, thrombotic disorders and ischaemic disorders such as peripheral vascular disorder, pulmonary embolus, venous thrombosis, myocardial infarction, transient ischaemic attack, unstable angina, reversible ischaemic neurological deficit and sickle cell anaemia. It is also useful for treating or preventing a stroke disorder in a subject undergoing heart surgery, lung surgery, spinal surgery, brain surgery, vascular surgery, abdominal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                and
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Human, CD39; vasotropic; cerebroprotective; haemostatic; thrombolytic;
stroke; thrombotic disorder; ischaemic disorder.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Treating stroke in a subject susceptible to intracranial hemorrhaging an ischemic disorder, involves administering a CD39 polypeptide which inhibits ADP-mediated platelet aggregation or leukocyte accumulation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 GLTQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFV
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surgery,, or organ transplantation surgery
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CC The invention relates to a conjugate (I) comprising an enzyme and a. biodegradable polymer, where (i) enzymatic activity of the enzyme is conjudestered to the enzyme in the absence of the blodegradable polymer, or (ii) the half life of the enzyme is longer than that of the enzyme is longer than that of the enzyme in the absence of the polymer. The enzyme is longer than that of the enzyme in the absence of the polymer. The enzyme is a multimeric, soluble and/or extracellular enzyme, preferably an apyrase, especially a soluble form of CD39 and catalyzes or preferably an apyrase, especially a soluble form of CD39 and catalyzes or preferably an apyrase, respected the confidence of extracellular nucleotides or abnormal levels of extracellular nucleotides or abnormal levels of extracellular nucleotides or abnormal levels of extracellular nucleotides or abnormal sease or injury following myccardial cancer, sepsis or a disease related to graft transplant. (I) is also used for treating coronary artery disease or injury following myccardial infarction, unstable angina, atherosclerosis, pre-eclampsia, embolism, coronary and cogullowing thrombosis, thrombotic carefulation or injured tissue surface, in combination with angioplasty, carcin or injured tissue surface, in combination with angioplasty, cardiovascular devices. The present sequence represents a human CD39 copypeptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWE 395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LSNYPPDPQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNGFTFGALDLG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 510;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                     100.0%; Score 2369; DB 7;
100.0%; Pred. No. 2.5e-233;
ive 0; Mismatches 0;
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                                                                                                                                                                                                                                                                  CD39; nucleoside diphosphate; thrombolytic; anticoagulant; cardiovascular; cytostatic; antibacterial; immunosuppressive; vasotropic; cardiant; antianginal; antiarteriosclerotic; gynaecological; cerebroprotective; cancer; human; apyrase; enzyme.
                                        BILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPPQQFEIQGIGNYQQCHQSILELFNT
                                                                                                                                                                     SYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWE
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                                                                                                                                                                                                                                                                                                                      LNLTNMIPAEQPLSTPLSHSTYV 443
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/note = ACR1
125. .125
/note = ACR2
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                                                                                                                                                                                                                                                                                                      The
                                                                                                                                                                                                                                                                                                                                                                                                             The present invention relates to a method of treating cardiovascular disease in a subject, comprising administering an IL-17, IL-18, 4-IBB, CD30 or OX40 antagonist. The IL-17, IL-18, 4-IBB, CD30 or OX40 antagonists hre useful for treating cardiovascular disorders, e.g. (chronic immune) myocarditis, congestive heart failure, aneurysms, angina, embolism, restenosis, ischaemia or thrombocytopenic purpura. Tpresent sequence is a polypeptide used in the exemplification of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLG
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                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                   Use of IL-17, IL-18, 4-1BB, CD30 or OX40 antagonists, for treating a cardiovascullar disease, e.g. chronic immune myocarditis, congestive failure, aneurysm, angina, embolism, restenosis, ischemia or thrombocytopenic purpura
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                                                                                                                                                                                                                                                                                                                                                              Length 510;
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                                                                                                                                                                                                                                                                                                                                                             Score 2369; DB 8;
Pred. No. 2.5e-233;
; Mismatches 0;
                                                                                                                                                                                                                                Disclosure; Page 133-134; 135pp; English.
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100.0%; Pre
                                                                                    28-AUG-2002; 2002US-0406418P.
12-AUG-2003; 2003US-0494457P.
                                                                  21-AUG-2003; 2003WO-US026354
                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                    Burton PB, Deisher TA;
                                                                                                                (IMMV ) IMMUNEX CORP.
                                                                                                                                                      WPI; 2004-239107/22.
N-PSDB; ADL24294.
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Best Local Similarity
                            WO2004019866-A2
                                                                                                                                                                                                                                                                                                                                          Sequence 510 AA;
          Homo sapiens.
                                               11-MAR-2004
                                                                                                                                                                                                                                                                                                                                                                               Matches 443;
                                                                                                                                                                                                                                                                                                                        invention.
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The invention relates to novel CD39-like polypeptides (CD39-like nucleotide triphosphatase; NTPase) and nucleic acid molecules encoding such polypeptides. CD39-like polynucleotides may be used as hybridisation probes, PCR primers and in chromosome and gene mapping. Polypeptides of the invention may be used as molecular weight markers, as food supplements, in generating an antibody that specifically binds the polypeptide, as anti-thrombotic or anti-tissue graft rejection agents, or for regulating ATP neurotransmission in smooth muscle, peripheral ganglia or brain. Sequences of the invention are useful in modulating ecto-ATPase activity and for identifying compounds that modulate ecto-ATPase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     New CD-19-like polypeptides and polynucleotides, useful in chromosome and gene mapping, as molecular weight markers, as food supplements, or as anti-thrombotic or anti-tissue graft rejection agents.
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                                                                                                                                                                                                                                            CD39-like protein; gene mapping; molecular weight marker;
food supplement; anti-thrombotic; anti-tissue graft rejection agent;
ATP neurotransmission; ecto-ATPase activity; nucleotide triphosphatase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GLTQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFV
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "III
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/note= "Apyrase region
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169. .191
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207. .228
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ADQ99453 standard; protein; 510 AA.
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                                                                                                                                                                                     Human CD39 protein.
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                                                                                                                                                                       ELLRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPPQQFELQGIGNYQQCHQSILELFNT 335
                                                                                                                                                                                                            SYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWE 360
                                                                                                                                                                                                                           SYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVWKFLNLTSEKVSQEKVTEMMKKFCAQPWE 395
                                                                                                                                                                                                                                                              EIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYM 420
                                                                                                                                                                                                                                                                             CD39-like protein; autoimmune deficiency disorder; connective tissue disease; multiple sclerosis; systemic lugus erythematosus; rheumatoid arthritis; autoimmune pulmonary inflammation; Guillain-Barre syndrome; autoimmune thyroiditis; insulin dependent disbetes mellitus; mysathenia dravis; graft-versus-host disease; septratory disorder; asthma; respiratory disorder; myeloid or lymphoid cell deficiency; respiratory disease; rooth repair process; inflammatory bowel disease; periodontal disease; tooth repair process; inflammatory bowel disease; crohn's disease; loukaemia; nervous system disorder; anticoagulant; food supplement; anti-tissue graft rejection; ATP neurotransmission;
OKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERS
                                                                                                      GASTQVTFVPQNQTIBSPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASN
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The present invention relates to CD39-like polypeptide and its encoding polymucleotide. The invention is useful for preventing, treating or ameliorating autoimmune deficiency disorders including connective tissue disease, multiple sclerosis, systemic lupus erythematosus, rheumatoid arthritis, autoimmune pulmonary inflammation, Guillain-Barre syndrome, autoimmune thyroiditis, insulin dependent diabetes mellitus, myasthenia gravis, grafit-versus-host disease or autoimmune inflammatory eye disease, allergic disorders including asthem and other respiratory problems, myeloid or lymphoid cell deficiencies, periodontal diseases and other tooth repair processes, inflammatory conditions including inflammatory conditions including inflammatory could insorders. The invention is also useful as an anticosquiant for inhibiting platelet aggregation, food supplement, anti-tissue graft cinhibiting platelet aggregation, food supplement, anti-tissue graft sequence is a human CD39 protein. Note: This sequence is stated to be the same as that shown as SEQ ID 13 in sequence listing, however these
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                                                                             New isolated CD39LA polypeptide and polynucleotide, useful for preventing, treating, or ameliorating multiple sclerosis, systemic lupus erythematosus, rheumatoid arthritis, myasthenia gravis, or graft-versus-
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; Pred. No. 2.5e-233;
0; Mismatches 0;
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Best Local Similarity 100.
Matches 443; Conservative
                                                WPI; 2004-613270/59
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Gaps

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Length Indels 120

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Example; Fig 8; 102pp; English.
                                                                                                                                            27-MAR-2002; 2002US-00107660
                                                                                                                                                      13-JUL-2001, 2001US-00905589
                                                                                                                                                                    Chadwick BP, Frischauf
                Human CD39 protein #3.
                                                                                                                                                                           2004-613273/59.
                                                                                                                                                             (NUVE-) NUVELO INC.
                                                                                                                                                                               GENBANK; S73813.
                                                                                                                                                                                                cancerous cells.
                                                                               human; enzyme
                                                                                     Homo sapiens.
                                                                                                                              US6780977-B1
                                                                                                                                                   29-JAN-1999;
          04-NOV-2004
                                                                                                                                     24-AUG-2004.
   ADR69042;
                                                                                             Key
Region
                                                                                                      Region
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GASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASN 240
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         vitamin B12 deficiency, folic acid deficiency, Wernicke disease, tobaccoalcolon amblyopia and Marchiafava-Bignami disease. The invention also has has manestatic and thrombolytic activity, serve as nutritional supplements and modulates ecto-Arpase activity. The invention acts as a cytostatic agent and is useful in immunotherapy. The present sequence is human CD39 protein. Note: This sequence is described in the specification as being the same as the human CD39 protein represented in SBQ ID NO: 13 of the sequence listing, however the two sequences are different.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   muscular-gen; ophthalmological; osteopathic; nootropic; antiparkinsonian; cytostatic; human; CD39 protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CD39-like protein, gene mapping, food supplement, ecto-ATPase activity, gene therapy, multiple sclerosis, rheumatoid arthritis, autoimmune thyroiditis, diabetes mellitus, myasthenia gravis, autoimmune inflammatory eye disease, osteoporosis, osteoarthritis, Alzheimer's disease, Parkinson's disease, amyotrophic lateral sclerosis, leukaemia, nervous system disorder, neuroprotective, antiarthritic,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   276 EILKDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNT
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                                                                                                                                                                                                                                                                                                100.0%; Score 2369; DB 8;
100.0%; Pred. No. 2.5e-233;
ive 0; Mismatches 0;
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/note= "Apyrase region (ACR)
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                                                                                                                                                                                                                                                                                                                         Similarity
                                                                                                                                                                                                                                               Sequence 510 AA;
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                                                                                                                                                                                                           leukaemia; acute lymphocytic leukaemia; acute myelocytic leukaemia; chronic leukaemia; autoimmune disorder; multiple sclerosis; rheumatoid arthritis; Guillain-Barre syndome; insulin dependent diabetes mellitus; myasthenia gravis; graft-versus-host disease; GVHD; allergic disorder; asthma; respiratory disorder; inflammatory disorder; septic shock; systemic inflammatory response syndome; SIRS; Crohn's disease; central nervous system disorder; peripheral nervous system disorder; ischaemia; Parkinson's disease; Alzheimer's disease; Huntington's chorea;
                                                                                                                                                                                                                                                                                                                                                                                                                                               systemic lupus erythematosus;
human immunodeficiency virus-associated myelopathy;
transverse myelopathy; nutritional disorder; vitamin B12 deficiency;
folic acid deficiency; Wernicke disease; tobacco-alcohol amblyopia;
Marchiafava-Bignami disease; haemostatic activity; thrombolytic activity;
nutritional supplement; ecto-ATPase activity; cytostatic; immunotherapy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The present invention provides novel CD39-like polypeptides (CD39-like nucleotide triphosphatase, NTPase) and their encoding polynucleotides. The invention is useful in treating cancer, leukaemia and related disorders such as acute lymphocytic leukaemia, acute myelocytic leukaemia and chronic leukaemia, autoimmune disorders such as multiple sclerosis, rheumatoid arthritis, Guillain-Barre syndrome, insulin dependent diabetes mellitus, myasthenia gravis and graft-versus-host disease, allergic disorders such as asthma, respiratory disorders, inflammatory disorders such as septic shock, systemic inflammatory response syndrome (SIRS) and crohn's disease, central and peripheral nervous system disorders such as ischaemia, parkinson's disease, Alzheimer's disease, Huntington's chorea, systemic lupus erythematosus, human immunodeficiency virus-associated myelopathy and transverse myelopathy and nutritional disorders such as
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             New antibody or its fragment that specifically binds to CD39L3 polypeptide, useful for detecting and purifying CD39L3 polypeptide, for treating leukemia, and for detecting and preventing metastatic spread of
                                                                                                                                                                                     protein; CD39-like nucleotide triphosphatase; NTPase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "III
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/note= "Apyrase (ACR) I
202. .228
/note= "Apyrase (ACR) I
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The invention relates to an isolated nucleic acid comprising at least 10 contiguous nucleotides of any of the 233 polynucleotide sequences given in the specification, or its complement. The nucleic acids encode cancerassociated proteins. Also included are an expression vector comprising the isolated nucleic acid or expression vector, a microarray for detecting crecombinant nucleic acid or expression vector, a microarray for detecting a cancer-associated (CA) nucleic acid comprising the above comprising at least 10 contiguous nucleotides of any of the above comprising at least 10 contiguous nucleotides of any of the above.

CC comprising at least 10 contiguous nucleotides of any of the above comprising frame of a CA sequence selected from any of the 95 conjument), an isolated antibody, (or its antigen binding fragment) that connected an isolated antibody, or its antigen binding fragment) that connected antibody, a pharmaceutical composition comprising the above monoclonal antibody, a pharmaceutical composition comprising the above conflowed and a pharmaceutical excipient, a kit for detecting cancer cells (comprising the antibody cited above, methods for diagnosing cancer or for detecting the presence or absence of cancer cells in an individual, a method for delivering a therapeutic agent to cancer cells in an individual, an electronic library comprising the above polymetide (or their fragments), methods of screening polymucleotide or polymetide (or their fragments), methods of screening
336 SYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWE 395
                                                                  396 BIXTSYAGVKEKYLSBYCFSGTYILSLLLQGYHFTADSWEHIHPIGKIQGSDAGWTLGYM 455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New isolated cancer-associated polynucleotides and polypeptides useful for diagnosing, preventing or treating cancers, especially lymphoma and leukemia, or in screening for agents that modulate cancer.
                                              EIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               cancer-associated protein; cytostatic; cancer; leukaemia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                Human cancer-associated protein HP20-011.5.
                                                                                                                                                               LNLTNMIPAEQPLSTPLSHSTYV 478
                                                                                                                                       LNLTNMIPAEQPLSTPLSHSTYV 443
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; 2003US-00388838.
; 2003US-00417375.
; 2003US-00461862.
; 2003US-00663431.
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13-JUN-2003; 2
15-SEP-2003; 2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             concoding polymucleotides. The CD314 polymucleotide is useful as hybridisation probes, as primers for PCR, for chromosome or gene mapping, in the recombinant production of protein, and in generation of antisense DNA or RNA. The production of protein, and in generation of antisense DNA or RNA. The protein of the invention is used as molecular weight markers, and as food supplements and for modulating ecto-APPase activity. The invention is useful for preventing, treating or ameliorating a medical condition, e.g. multiple sclerosis, rheumatoid arthritis, autoimmune thyroiditis, diabetes mellitus, myasthenia gravis, autoimmune inflammatory eye disease, osteoporosis, osteoarchritis, autoimmune inflammatory eye disease, amyotrophic lateral sclerosis, cleukaemia or nervous system disorders and in gene therapy. The present sequence is the human CD39 protein. Note: This sequence is stated to be the same as that shown as SEQ ID 13 in sequence listing, however these
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New isolated CD39L4 polynucleotide, useful for preventing, treating, or ameliorating multiple sclerosis, rheumatoid arthritis, diabetes, osteoporosis, Alzheimer's disease, amyotrophic lateral sclerosis, or
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                                                               /note= "Apyrase region (ACR) III"
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                      "Apyrase region
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Best Local Similarity
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for anticancer activity or for a bioactive agent capable of modulating the activity of a CA protein (CAP), methods for detecting cancer associated with expression of a polypeptide in a test cell sample, a method for treating cancers and a method for inhibiting the expression of A gene in a cell. The composition and methods are useful for detecting, diagnosing, preventing and treating cancers, especially lymphoma and leukaemia. These may also be used in screening for agents that modulate cancer. The present sequence is a human CAP protein sequence. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at the published_pot_sequences
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                                                                                                                                                                                           Gaps
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HIV infection; hepatitis; multiple sclerosis;
systemic lupus erythematosus; rheumatoid arthritis;
Guillain-Barre syndrome; thyroiditis; diabetes; myasthenia gravis;
graff-versus-host disease; GHVD; asthma; human; human; enzyme; CD39.
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                                                                                                                                                                 100.0%; Score 2369; DB 8;
100.0%; Pred. No. 2.5e-233;
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/note= "Apyrase region (ACR)
125. .142
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Best Local Similarity 100.
Matches 443; Conservative
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The invention relates to CD39-like polypeptides (CD39-like nucleotide-triphosphatase, NTPase) and their corresponding polynucleotides. The invention also relates to a method for making CD39 protechis. The methods and compositions of the invention are useful for the diagnosis, prevention and/or treatment of diseases or conditions associated with aberrant expression or activity of the CD39-like polypeptide, such as HIV infection, hepatitis, multiple sclerosis, systemic lupus erythematosus, rheumacoid arthritis, Guillain-Barre syndrome, thyroiditis, diabetes, myasthenia gravis, graft-versus-host disease (GHVD) and asthma. The present sequence is the human CD39 protein note: This sequence is described in the specification as being the same as the human CD39 protein represented in SEO ID NO: 13 of the sequence listing, however the
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ilarity 100.0%; Pred. No. 2.5e-233;
Conservative 0; Mismatches 0;
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note= "Apyrase region (ACR)
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   169. .191
/note= "Apyrase region 207. .228
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13-JUL-2001; 2001US-00908510.
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vasotropic; antirheumatic; antiarthritic; hypotensive; antianginal; antiinflammatory; cardiant; angiogenesis inhibitor; gene therapy; angiogenesis; endothelial cell; diagnosis; tumor vascularization; retinopathy; rheumatoid archritis; Crohn's disease; atherosclerosis; ovary hyperstimulation; psoriasis; endomerriosis; restenosis; angioplasty; cicartisation; peripheral vascular disease; hypertension; vascular inflammation; Raymaud's disease; aneuxism; thrombophlebitis; ischemia; angina; myocardial infarction; chronic heart disease;
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                                                                 1 GLTQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFV
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/ Match 100.0%; Score 2369; DB 8; Local Similarity 100.0%; Pred. No. 2.5e-233; nes 443; Conservative 0; Mismatches 0;
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N-PSDB; ADK60715

Compositions containing nucleic acid or polypeptide differentially expressed in angiogenesis are useful to diagnose, prognose and treat angiogenic disorders including tumor vascularization and heart disease.

Claim 7; SEQ ID NO 297; 405pp; French.

The invention relates to a novel pharmaceutical composition active on angiogenesis comprising an endothelial cell nucleic acid whose expression is induced by an angiogenic factor and inhibited by an angiostatic agent or its induced by an angiogenic factor and inhibited by an angiostatic agent or its complement or fragment, a molecule capable of inhibiting expression of the nucleic acid or its fragment, a molecule capable of inhibiting expression of or its fragment, a molecule capable of inhibiting expression of or molecule which binds to the polypeptide sequence. The invention is used to diagnose, prognose or treat an angiogenic disorder in a mammal, particularly a human. The disorder is angiogenic disorder in a mammal, particularly a human. The disorder is coronical associated with neovascularization, restenosis due to angioplasty, overproduction of tissue due to cicatrisation, a peripheral coronical inflammation, wascular disease, hypertension, vascular inflammation, Raynaud disease, angioplasty, overproduction of tissue due to cicatrisation, a peripheral coronical infarction, chronic heart disease, cardiac congestion or macular degeneration due to age or osteoporosis. This sequence corresponds to a procein encoded by a differentially expressed DNA used in the composition of the invention.

Sequence 511 AA;

Gaps ö 100.0%; Score 2369; DB 8; Length 511; 100.0%; Pred. No. 2.5e-233; Live 0; Mismatches 0; Indels 0. Best Local Similarity 100.0 Matches 443; Conservative Query Match

QKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERS 120 1 GLTQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFV 60 61 à

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LNLTNMIPAEOPLSTPLSHSTYV 443 421

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7, 2005, 13:13:01 Search completed: March Job time: 74.4797 secs

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March 7, 2005, 13:23:03; Search time 51.9709 Seconds (without alignments) 2804.781 Million cell updates/sec
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'(gnz_6')ptodata'/I)ubpaa/US08_NEW_PUB.pep:*
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   version 5.1.6
- 2005 Compugen Ltd.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1391452 seqs, 329044822 residues
                                                                                                                                                                                                                                                                                                                                           US-09-835-147A-2_COPY_36_478
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Maximum Match 100%
Listing first 45 summaries
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                                                                                                                                  OM protein - protein search, using sw model
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Gapop 10.0 , Gapext 0.5
GenCore Copyright (c) 1993
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Maximum DB seq length: 200000000
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Perfect score:
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	& Query Match	% Query Match Length DB	DB	O.	Description
-	2369	100.0		13		Sequence 38, App
~	2369	100.0		σ	US-09-835-147-2	Sequence 2, Appli
М	2369	100.0		0	US-09-374-586-1	Sequence 1, Appli
4	2369	100.0		10	US-09-781-796B-1	Sequence 1, Appl
S	2369	100.0		16	US-10-646-308-30	Sequence 30, App
9	2348	99.1		σ	US-09-374-586-2	Sequence 2, Appli
7	2348	99.1	454	σ	US-09-835-147-6	Sequence 6, Appli
8	2348	99.1	463	6	US-09-835-147-30	30,
6	2348	99.1	464	Φ	US-09-835-147-27	Sequence 27, Appl
10	2348	99.1	473	σ	US-09-835-147-29	Sequence 29, Appl
11	2348	99.1	474	σ	US-09-835-147-28	Sequence 28, Appl
12	2348	99.1	476	σ	US-09-835-147-3	Sequence 3, Appli
13	2348	99.1	478	6	US-09-835-147-8	Sequence 8, Appli

26,	Sequence 4, Appli	6,49	496,	Sequence 496, App	_	496,	496,	496,	496,	496,		_	496,	496,	496,	496,	496,	496,	496,	496,	496,	496,	496,	_	_	496,	496,	496,	_
US-09-835-147- US-09-835-147-	9 US-09-823-356-4 9 US-09-923-304-4	3 US-10-052-	US-10-174-590-4	4 US-10-176-	4 US-10-175-	4 US-10-174	US-10-176-483-49	4 US-10-176-749-4	4 US-10-176-914-49	4 US-10-176-	US-10-173-706-49	4 US-10-175-738-49	US-10-175-752-4	4 US-10-176-482-4	4 US-10-	US-10-176-913-49	4 US-10-180-552-49	US-10-180-557-49	4 US-10-173-700-49	US-10-174-572-4	US-10-174-579-49	4 US-10-174-582-49	4 US-10-174-588-49	US-10-175-7	4 US-10-	4 US-10-175-743-49	10-176-488-49	14 US-10-176-492-496	14 US-10-176-747-496
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15	16	18	19	20	21	22	23	24	25	56	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45

ALIGNMENTS

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Sequence 38, Application US/10092063
Publication No. US20020173005A1
GENERAL INFORMATION:
APPLICANT: Ford, John
APPLICANT: Mulero, Julio
TITLE OF INVENTION: METHODS AND MATERIALS RELATING TO NOVEL CD39-LIKE POLYPEPTIDES
FILE REFERENCE: 28110/35908
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 502;
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100.0%; Pred. No. 9.6e-211;
ative 0; Mismatches 0;
                                                                                                                                                                                          CURRENT APPLICATION NUMBER: US/10/092,063
CURRENT FILING DATE: 2002-03-05
PRIOR PILING DATE: 2002-03-05
PRIOR PLILING DATE: 2002-01-31
PRIOR PLILING DATE: 2002-01-31
PRIOR PLILING DATE: 1999-07-16
PRIOR APPLICATION NUMBER: PCT/US99/16180
PRIOR PLILING DATE: 1999-07-09
PRIOR PLILING DATE: 1999-07-09
PRIOR APPLICATION NUMBER: 09/273,447
PRIOR PLILING DATE: 1999-02-04
PRIOR PLILING DATE: 1999-02-04
PRIOR PLILING DATE: 1999-02-04
PRIOR PLILING DATE: 1999-07-24
PRIOR PLILING DATE: 1998-07-24
PRIOR PLILING DATE: 1998-07-24
PRIOR PLILING DATE: 1998-07-24
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Best Local Similarity 100.
Matches 443; Conservative
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SOFTWARE: Patentin Ver.
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TYPE: PRT
ORGANISM: HOMO-SAPIEN
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Best Local S:
Matches 443
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Sequence 2, Application US/09835147

Sequence 2, Application US/09835147

Setent No. US20020002277A1

GENERAL INFORMATION:

APPLICANT: Maliszewski, Charles R.

APPLICANT: Gayle III, Richard B.

APPLICANT: Gimpel, Steven B.

ITILE OF INVENTION: Inhibitors of Platelet Activation and Recruitment Gimpel, Steven B.

ITILE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILTHS DATE: 2879-408

FURRENT FILING DATE: 1299-10-16

PRIOR PLICATION NUMBER: US 60/107,466

PRIOR PLICATION NUMBER: US 60/107,466

PRIOR PLING DATE: 1999-10-16

PRIOR FILING DATE: 1999-10-13

PRIOR FILING DATE: 1999-10-13

PRIOR PLING DATE: 1999-10-13

NUMBER OF SEQ ID NOS: 31

SOFTWARE: PREAIT VET. 2.0

SSOFTWARE: PREAIT VET. 2.0
              LSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLG
                                                                                                             LSNYPFDFQGARIIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLG
                                                                                                                                               GASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASN
                                                                                                                                                              GASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALMQKLAKDIQVASN
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                                               QKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERS
GLTQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFV
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Best Local Similarity 100.0%; Pred. No. 9.8e-211;
Matches 443; Conservative 0; Mismatches 0;
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US-09-835-147-2
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96 QKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERS 155
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                                                                    156 LSNYPFDFQGARITITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLG
                                                                                                                                             216 GASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASN
                                      121 LSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLG
                                                                                                                       181 GASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASN
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APPLICANT: BURTON, Paul B. J.
APPLICANT: BURTON, Paul B. J.
TITLE DE INVENTION: COMPOSITIONS AND METHODS FOR TREATING CARDIOVASCULAR DISEASE;
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR TREATING CARDIOVASCULAR DISEASE;
TITLE OF ILING DATE: 2003-08-21
CURRENT APPLICATION NUMBER: US/10/646,308
CURRENT APPLICATION NUMBER: --to be assigned---
PRIOR FILING DATE: 2003-08-12
PRIOR FILING DATE: 2003-08-18
PRIOR FILING DATE: 2003-08-28
NUMBER OF SEQ ID NOS: 36
SOFTWARE: Patentin version 3.2
SEQ ID NO 30
LENGTH: 510
LENGTH: 510
TYPE: PRI
CORGANISM: Homo sapiens
US-10-646-308-30
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Sequence 2, Application US/09374586
Sequence 2, Application US/09374586
GENERAL INFORMATION:
THILE OF INVENTION: C139/ECTO-ADPASE AS A TREATMENT FOR THROMBOTIC AND TITLE OF INVENTION: ISCHEMIC DISORDERS
FILLS REFERENCE: 0575/59167;
CURRENT APPLICATION NUMBER: US/09/374,586
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100.0%; Pred. No. 9.8e-211;
iive 0; Mismatches 0; Indels 0;
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                                                             RESULT 5
US-10-646-308-30
IS-10-646-308-30
Separation No. US20040136992A1
GENERAL INFORMATION:
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Best Local Similarity 100.
Matches 443; Conservative
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US-09-374-586-2
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Sequence 1, Application US/09781796B

Publication No. US20030040094A1

GENERAL INFORMATION:
APPLICANT: BEAUDOIN, Adrien R.
APPLICANT: SQUENY, Jean
APPLICANT: ROBSON, Simon
TITLE OF INVENTION: THEREOF AND PROCESS OF PRODUCING THEREOF BY RECOMBINANT
TITLE OF INVENTION: TECHNOLOGY
TITLE OF INVENTION: TECHNOLOGY
TITLE OF INVENTION: TECHNOLOGY
TITLE OF INVENTION: TECHNOLOGY
TITLE OF INVENTION: TECHNOLOGY
TITLE OF INVENTION: TECHNOLOGY
TITLE OF INVENTION: TECHNOLOGY
TITLE OF INVENTION UNMBER: US/09/781,796B
CURRENT FILING DATE: 1995-04-10
PRIOR PILING DATE: 1995-04-10
PRIOR PILING DATE: 1996-02-01
NUMBER OF SEQ ID NOS: 8
SOFTWARE: Patentin Ver: 2.1
SEQ ID NO 1

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                                                                                                          LNLTNMIPAEQPLSTPLSHSTYV 443
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ORGANISM: Homo sapiens
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) OTHER INFORMATION:
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Sequence 6, Application US/09835147

Sequence 6, Application US/09835147

Sequence 10.82200227741

GENERAL INFORMATION:

APPLICANT: Maliszewski, Charles R.

APPLICANT: Gayle III, Richard B.

APPLICANT: Gimpel, Steven D.

TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE REFERENCE: 2879-405

TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE REFERENCE: 2879-405

FILE REFERENCE: 2879-405

CURRENT APPLICATION NUMBER: US 60/104,585

PRIOR FILING DATE: 1998-10-16

PRIOR FILING DATE: 1998-11-06

PRIOR FILING DATE: 1998-11-06

PRIOR FILING DATE: 1999-08-13

NUMBER OF SEQ ID NOS: 31

SOFTWARE: PATENTING DATE: 1999-10-13

NUMBER OF SEQ ID NOS: 31

SEQ ID NO 6

SEQ ID NO 6
                                                                                                                                                                                                                            1 TONKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQK
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                                                                                                                                              Length 439;
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                                                                                                                                            DB 9;
                                                                                                                                           99.1%; Score 2348; DB 9; ilarity 100.0%; Pred. No. 7e-209; Conservative 0; Mismatches 0
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ORGANISM: Artificial Sequence
              NUMBER OF SEQ ID NOS: 2
SOFTWARE: Patentin Ver. 2.1
                                                                                       ORGANISM: Homo sapiens
                                                                                                                                           Query Match ;
Best Local Similarity
Matches 439; Conserv
                                                              LENGTH: 439
                                                                                                           US-09-374-586-2
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GENERAL INFORMATION:

GENERAL INFORMATION:

APPLICANT: Maliszewski, Charles R.

APPLICANT: Bayle III, Richard B.

APPLICANT: Brice, Virginia L.

APPLICANT: Gimpel, Steven D.

TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment
FILE REFERENCE: 2879-US

CURRENT APPLICATION NUMBER: US/09/835,147

CURRENT APPLICATION NUMBER: US 60/104,585

PRIOR APPLICATION NUMBER: US 60/107,466

PRIOR FILING DATE: 1998-11-06

PRIOR FILING DATE: 1998-11-06

PRIOR FILING DATE: 1999-10-13

PRIOR FILING DATE: 1999-10-13

NUMBER OF SEQ ID NOS: 31

SOFTWARE: PATENTIN UVER: 2.0

SEQ ID NOS: 31

SEQ ID NOS: 31
                                                                                                                                                                                                                 3 TONKALPENVKYGIVLDAGSSHISLYIYKWPAEKENDIGVVHOVEECRVKGPGISKFVOK
                                                                                                                                                                                                                                               16 TQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQK
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             196 SIQVIFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEI
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     Fusion
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                                                                                                            Length 454;
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Description of Artificial Sequence:
construct of human CD39
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, OTHER INFORMATION: Description of Artificial Sequence:
, OTHER INFORMATION: CONSTRUCT of human CD39
US-09-835-147-30
                                                                                                         Query Match 99.1%; Score 2348; DB 9; I
Best Local Similarity 100.0%; Pred. No. 7.4e-209;
Matches 439; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 30, Application US/09835147
Patent No. US20020002277A1
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ORGANISM: Artificial Sequence
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182

242 265 302 445

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CPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEEI 362
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Sequence 29, Application US/09835147

Patent No. US2002000227A1

GENERAL INFORMATION:

APPLICANT: Maliszewski, Charles R.

APPLICANT: Gayle III, Richard B.

APPLICANT: Frice, Virginia L.

APPLICANT: Frice, Virginia L.

APPLICANT: Frice, Virginia L.

APPLICANT: Frice, Virginia L.

APPLICANT: Frice, Virginia L.

APPLICANT: Frice, Virginia L.

CURRENT: Frice, Virginia L.

PRICE REFERENCE: 2899-08.

CURRENT APPLICATION NUMBER: US 60/104,585

PRICE APPLICATION NUMBER: US 60/107,466

PRICE APPLICATION NUMBER: US 60/107,466

PRICE FILING DATE: 1998-11-06

PRICE FILING DATE: 1998-11-06

PRICE PRICE APPLICATION NUMBER: US 60/149,010

PRICE FILING DATE: 1999-10-13

PRICE PRICE APPLICATION NUMBER: PCT/US99/22955

PRICE APPLICATION NUMBER: PCT/US99/22955

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PRICE PRICE PRICE PRICE PUBLICATION NUMBER: PCT/US99/22955
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                                      26 TONKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQK
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99.1%; Score 2348; DB 9; I
Best Local Similarity 100.0%; Pred. No. 7.8e-209;
Matches 439; Conservative 0; Mismatches 0;
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                                                                                                                                                                                               63 VNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLS 122
                                                                                                                                                                                                                           85 VNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGWRLLRMESEELADRVLDVVERSLS 144
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             243 LRDPCFHPGYKKUVNVSDLYKTPCTKRPEMTLPPQQFEIQGIGNYQQCHQSILELFNTSY 302
                                                                                                                               Sequence 27, Application US/09835147

Sequence 27, Application US/09835147

Sequence 27, Application US/00200227741

GENERAL INFORMATION:

APPLICANT: Majlascewski, Charles R.

APPLICANT: Gimpel, Steven D.

APPLICANT: Price, Virginia L.

APPLICANT: Price, Virginia L.

APPLICANT: Price, Virginia L.

APPLICANT: Price, Virginia L.

APPLICANT: Price, Virginia L.

APPLICANT: Price, Virginia L.

APPLICANT: Price, Virginia L.

APPLICANT: Price, Virginia L.

APPLICANT: Price, Virginia L.

APPLICANT: Price, Virginia L.

FILE REFERENCE: 2879-US

CURRENT APPLICATION NUMBER: US 60/104,585

PRIOR PILING DATE: 1998-10-16

PRIOR PILING DATE: 1999-11-06

PRIOR PILING DATE: 1999-11-03

PRIOR PILING DATE: 1999-10-13

PRIOR PILING DATE: 1999-10-13

PRIOR PILING DATE: 1999-10-13

SOFTWARE: Patentin Ver. 2.0

SEQ ID NO 27

LENGTH: 464
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          325 CPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEEI
                                                                                                 3 TQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQK
                                                     Gaps
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       Length 463;
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OTHER INFORMATION: Description of Artificial Sequence:
OTHER INFORMATION: construct of human CD39
  Query Match
99.1%; Score 2348; DB 9; L
Best Local Similarity 100.0%; Pred. No. 7.6e-209;
Matches 439; Conservative 0; Mismatches 0;
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243 LRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTSY 302
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APPLICANT: Gayle III, Richard B.
APPLICANT: Gayle III, Richard B.
APPLICANT: Gayle III, Richard B.
APPLICANT: Gimpel, Steven D.
TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE REFERENCE: 2879-US
CURRENT APPLICATION NUMBER: US/09/835,147
CURRENT APPLICATION NUMBER: US 60/104,585
PRIOR PLING DATE: 1998-110-16
PRIOR PLING DATE: 1998-110-16
PRIOR PLING DATE: 1998-11-06
PRIOR PLING DATE: 1999-08-13
PRIOR PLING DATE: 1999-08-13
PRIOR PLING DATE: 1999-08-13
PRIOR PLING DATE: 1999-08-13
PRIOR PLING DATE: 1999-08-13
SOFTWARE: PACHULING DATE: 1999-10-13
SOFTWARE: PACHULING DATE: 1999-10-13
SOFTWARE: PACHULING DATE: 1999-10-13
SOFTWARE: PACHULING DATE: 1999-10-13
SOFTWARE: PACHULING DATE: 1999-10-13
FRIOR PLING DATE: 1999-10-13
                                 156 NYPFDFQGARIITGQEBGAYGWITINYLLGKFSQKTRWFSIVPYETWNQETFGALDLGGA
                                                                                                                               216 STQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEI
                                                                                                     STQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEI
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; Sequence 3, Application US/09835147; Patent No. US20020002277A1; GENERAL INFORMATION:
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Matches 439;
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                                 UNBIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLS 154
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  VNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLS 122
                                                                                                                                                                                                  STQVTPVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEI 242
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                                                                                                                                                                                                                                                                                                                                                                                                                                               335 CPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEEI 394
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Sequence 28, Application US/09835147

Sequence 28, Application US/09835147

Septent No. US20020002277A1

Gaberatur No. US20020002277A1

APPLICANT: Malistewski, Charles R.

APPLICANT: Gayle III, Richard B.

APPLICANT: Gimpel, Steven D.

TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILIS REPRENCE: 2879-408

CURRENT FILING DATE: 2879-403

PRIOR PLICATION NUMBER: US 60/104,585

PRIOR PLICATION NUMBER: US 60/107,466

PRIOR PLICATION NUMBER: US 60/107,466

PRIOR PLICATION NUMBER: US 60/149,010

PRIOR PLING DATE: 1999-10-16

PRIOR PLING DATE: 1999-08-13

PRIOR PLING DATE: 1999-10-13

NUMBER OF SEQ ID NOS: 31

SOFTWARE: PatentIn Ver. 2.0

SEQCID NO 28
                                                                                                                               275 LRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTSY
                                                                                                NYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGA
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US-09-835-147-28
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Best Local Similarity 100.0%; Pred. No. 7.8e-209;
Matches 439; Conservative 0; Mismatches 0;
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ORGANISM: Artificial Sequence
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US-09-835-147-28
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340 CPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEBI 399
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                                                                                                                                                    KTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHPIGKIQGSDAGWTLGYMLN 422
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Sequence 26. Application US/09835147

Patent No. US20020002277A1

GENERAL INFORMATION:

APPLICANT: Maliszewski, Charles R.

APPLICANT: Gampel, Etchard B.

APPLICANT: Gimpel, Steven D.

TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE REPRENCE: 2879-04.

FILE REPRENCE: 2879-04.

CURRENT PILING DATE: 2001-04-13.

CURRENT PILING DATE: 1998-10-16.

PRIOR APPLICATION NUMBER: US 60/104,585.

PRIOR FILING DATE: 1998-11-06.

PRIOR FILING DATE: 1998-11-06.

PRIOR PLILING DATE: 1999-10-03.

PRIOR PLILING DATE: 1999-10-03.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      99.1%; Score 2348; DB 9; L
100.0%; Pred. No. 8.2e-209;
iive 0; Mismatches 0;
                                                                                                                                                                                                                                                          460 LINMIPAEQPLSTPLSHST 478
                                                                                                                                                                                                                                  LTNMIPAEOPLSTPLSHST 441
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUMBER OF SEQ ID NOS: 31
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 26
LENGTH: 487
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Best Local Similarity 100.0
Matches 439; Conservative
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                                                                                                                                                                                                                                                        KTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLN 457
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Sequence 8, Application US/09835147

Sequence No. US2002002277A1

GENERAL INFORMATION:

APPLICANT: Maliaszewski, Charles R.

APPLICANT: Galgel, Steven D.

TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE REFERENCE: 2879-US

CURRENT PAPLICANT: 1999-US

CURRENT PAPLICATION NUMBER: US/09/835,147

FRIOR APPLICATION NUMBER: US 60/104,585

PRIOR FILING DATE: 1998-10-16

PRIOR FILING DATE: 1998-11-06

PRIOR FILING DATE: 1998-11-06

PRIOR FILING DATE: 1999-10-13

NUMBER OF SEQ.ID NOS: 31

SOFTWARE: PatchIIN UVEY: 2.0

SEQ.ID NO 8

LENGTH: 478

LENGTH: 478

LENGTH: 478
                STQVTFVPQNQTIESPDNALGFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEI
                                                                                               KTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLN
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                                                                                                                                                    CPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEEI
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                                                                       LRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPPQQFEIQGIGNYQQCHQSILELFNTSY
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURE:
OTHER INFORMATION: Description of Artificial Sequence:
OTHER INFORMATION: CONStruct of human CD39
US-09-835-147-8
                                                                                                                                                                                                                                                                                                                                      423 LTNMIPAEQPLSTPLSHST 441
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ORGANISM: Artificial Sequence
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US-09-835-147-8
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APPLICANT: Gayle III, Richard B.
APPLICANT: Gayle III, Richard B.
APPLICANT: Gayle III, Richard B.
APPLICANT: Gayle III, Richard B.
APPLICANT: Gayle III, Richard B.
APPLICANT: Gayle III, Richard B.
TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE OF INVENTION: UNMER: US/09/835,147
CURRENT APPLICATION NUMBER: US 60/104,585
PRIOR FILING DATE: 1998-10-16
PRIOR FILING DATE: 1998-10-16
PRIOR APPLICATION NUMBER: US 60/107,466
PRIOR APPLICATION NUMBER: US 60/149,010
PRIOR FILING DATE: 1999-08-13
PRIOR FILING DATE: 1999-08-13
PRIOR FILING DATE: 1999-10-13
NUMBER OF SEQ ID NOS: 31
SSPTWARE: Patentin Ver. 2.0
                            349 CPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEEI
                                                                                      363 KTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLN
303 CPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEEI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       32 GIFLSSMXPINVSASTLYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGI
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97.0%; Score 2297; DB 9; Length 476;
Best Local Similarity 97.1%; Pred. No. 4.3e-204;
Matches 432; Conservative 2; Mismatches 7; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; OTHER INFORMATION: Any amino acid, preferably Cys or Ser
US-09-835-147-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OTHER INFORMATION: Description of Artificial Sequence: OTHER INFORMATION: construct of human CD39 NAME/KEY: VARIANT LOCATION: (39)
                                                                                                                                                                                                                                                                                                                                   Sequence 4, Application US/09835147
Patent No. US20020002277A1
GENERAL INFORMATION:
                                                                                                                                                                             423 LTNMIPAEQPLSTPLSHST 441
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US-09-835-147-4
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LENGTH: 476
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        Qy
        297 LFNTSYCCYSQCAFNGIFLPPLQGDFGARSAFYFWAKFLALTSEKVSQEKVTEMMKKFCA 356

        Db
        332 LFNTSYCPYSQCAFNGIFLPPLQGDFGARSAFYFWAKFLALTSEKVSQEKVTEMMKKFCA 391

        Qy
        357 QPWEBIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWT 416

        Db
        392 QPWEBIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWT 451

        Qy
        417 LGYMLNITANMPABQDLSTPLSHST 441

        Db
        452 LGYMLNITANMIPABQPLSTPLSHST 476

        Search completed: March 7, 2005, 14:12:33

        Job time: 53:9709 secs
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Sequence Sequence Sequence 1

Sequence 2, 1 Sequence 15,

Sequence Sequence

Sequence 1 Sequence 1 Sequence

Sequence 15, Sequence 15, Sequence 15,

Sequence

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65 VNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLS 124
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        JOS-09-55, -800C-55, Application US/09557800C

| Reguence 55, Application US/09557800C
| Patent No. 6476211
| GENERAL INFORMATION:
| APPLICANT: Ford, John
| APPLICANT: Paung, George
| TITLE OF INVENTION: Methods and Materials Relating to CD39-Like
| TITLE OF INVENTION: Methods and Materials Relating to CD39-Like
| TITLE OF INVENTION: Methods and Materials Relating to CD39-Like
| TITLE OF INVENTION: Methods and Materials Relating to CD39-Like
| TITLE OF INVENTION: MOTHOR: US/09/557,800C
| CURRENT APPLICATION NUMBER: US/09/41,238
| PRIOR APPLICATION NUMBER: US/370,265
| PRIOR FILING DATE: 1999-00-16
| PRIOR FILING DATE: 1999-07-16
| PRIOR PRILING DATE: 1999-07-09
| PRIOR PRILING DATE: 1999-07-09
| PRIOR PRILING DATE: 1999-07-09
| PRIOR PRILING DATE: 1999-07-09
| PRIOR PRILING DATE: 1999-07-09
| PRIOR PRILING DATE: 1999-07-09
| PRIOR PRILING DATE: 1999-07-06
| PRIOR PRILING DATE: 1999-07-06
| PRIOR PRILING DATE: 1999-07-06
| PRIOR PRILING DATE: 1999-07-06
| PRIOR PRILING DATE: 1999-07-06
| PRIOR PRILING DATE: 1999-07-06
| PRIOR PRILING DATE: 1999-07-06
| PRIOR PLING DATE: 1999-07-07-09
| PRIOR PLING DATE: 1999-07-07-09
| PRIOR PLING DATE: 1999-07-07-09
| PRIOR PLING DATE: 1999-07-07-09
| PRIOR
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US-10-107-576-14
US-09-905-732B-14
US-09-905-732B-14
US-09-240-639-15
US-09-908-510A-15
US-09-905-744B-15
US-10-107-660-15
US-09-905-732B-15
US-09-905-732B-15
US-09-129-112-2
US-09-129-112-15
US-09-129-112-15
US-09-129-112-15
US-09-129-112-15
US-09-129-116-16
US-09-905-74B-16
US-09-908-510A-16
US-09-908-510A-16
US-09-908-510A-16
US-09-908-510A-16
US-09-908-510A-16
US-09-908-510A-16
US-09-908-510A-16
US-09-908-510A-16
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ORGANISM: Homo sapiens
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Sequence 4, Appli
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Sequence 6049, Ap
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Sequence 11328, A
Sequence 11328, A
                                                                                                                                                 March 7, 2005, 12:59:32 ; Search time 18.8788 Seconds (without alignments) 1751.679 Million cell updates/sec
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                                                                                                                                                                                                                                                                                      1 APTSTONKALPENVKYGIVL......NLTNMIPAEQPLSTPLSHST 443
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/cgn2_6/ptodata/1/iaa/6A_COMB.pep:*
/cgn2_6/ptodata/1/iaa/6B_COMB.pep:*
/cgn2_6/ptodata/1/iaa/PcTUS_COMB.pep:*
/cgn2_6/ptodata/1/iaa/PcTUS_COMB.pep:*
                     GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
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US-09-370-625A-38
US-09-781-796C-1
US-09-208-510A-4
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US-09-908-744B-4
US-09-908-732B-4
US-09-949-016-6049
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US-09-949-016-11328
US-09-949-016-1133
US-09-908-510A-13
US-09-908-510A-13
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Maximum Match 100%
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Perfect score:

Sequence:

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Scoring table:

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Sequence

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APPLICANT: BEAUDOIN, Adrien R.
APPLICANT: BEAUDOIN, Adrien R.
APPLICANT: BEAUDOIN,
APPLICANT: SEVIGNY, Jean
TITLE OF INVENTION: THEREOF AND PROCESS OF PRODUCING THEREOF BY RECOMBINANT
TITLE OF INVENTION: THEREOF AND PROCESS.
TITLE OF INVENTION: TECHNOLOGY
FILE REPERENCE: ATP-DIPHOSPHOHYDROLASES-BEAUDOIN
CURRENT APPLICATION NUMBER: US/08/930, 921B
EARLIER APPLICATION NUMBER: PCT/CA96/00223
EARLIER APPLICATION NUMBER: PCT/CA96/00223
EARLIER FILING DATE: 1996-04-10
NUMBER OF SEQ ID NOS: 8
SOFTWARE: PATENTIN VET. 2.0
SEQ ID NO ILENGTH: 510
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                                                                             KTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLN
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                              CPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEEI
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Best Local Similarity 100.0%; Pred. No. 2e-244;
Matches 439; Conservative 0; Mismatches 0;
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; Sequence 1, Application US/08930921B
; Patent No. 6287837
; GENERAL INFORMATION:
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ORGANISM: Unknown
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US-09-370-625A-38

i Sequence 38, Application US/09370625A

i Ratent No. 660032

i GENERAL INFORMATION:

APPLICANT: ROA' John

APPLICANT: NAIDECO, JULIO

ITILE OF INVENTION: METHODS AND MATERIALS RELATING TO NOVEL CD39-LIKE POLYPEPTIDES

FILE REPREBRENCE: 28110/35908

CURRENT APPLICATION NUMBER: US/09/370,625A

CURRENT PILING DATE: 1999-08-09

PRIOR PALLOATION NUMBER: POT-1/US99/16180

PRIOR PALLOATION NUMBER: 09/350,836

PRIOR PALLOATION NUMBER: 09/350,836

PRIOR PAPLICATION NUMBER: 09/350,836

PRIOR APPLICATION NUMBER: 09/330,836

PRIOR APPLICATION NUMBER: 09/330,836

PRIOR PLING DATE: 1999-03-19

NUMBER OF SEQ ID NOS: 39

SOFTWARE: Patentin Ver. 2.0

SEQ ID NO 38

LENGTH: 502
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                                                                                                                                                           278 LRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFRIQGIGNYQQCHQSILELFNTSY
                                                                                                                                                                                                                    CPYSQCAFNGIFLPPLQGDFGAFSAFYFVWKFLNLTSEKVSQEKVTEMMKKFCAQPWEEI
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                                                        STQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEI
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Best Local Similarity 100.0%; Pred. No. 2e-244;
Matches 439; Conservative 0; Mismatches 0; Indels
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                                                  APPLICANT: BEAUDOIN, Adrien R.
APPLICANT: BEAUDOIN, Jean
APPLICANT: BACH, Fritz H.
APPLICANT: BACH, Fritz H.
APPLICANT: BACH, Fritz H.
APPLICANT: ROBSON, Simon
ITILE OF INVENTION: THEREOF AND PROCESS OF PRODUCING THEREOF BY RECOMBINANT
ITILE OF INVENTION: TECHNOLOGY
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ITILE OF INVENTION TECHNOLOGY
ITILE OF INVENTION DATE: 2001-02-12
CURRENT APPLICATION NUMBER: 08/419,204
PRIOR FILING DATE: 1995-04-10
PRIOR PLING DATE: 1996-04-10
PRIOR APPLICATION NUMBER: 08/930,921
PRIOR PLING DATE: 1998-02-01
NUMBER OF SEQ ID NOS: 8
SOFTWARE: PatentIn Ver: 2.1
SEQ ID NO 1
LENGTH: 510
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Sequence 1, Application US/09781796C Patent No. 6800284
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Sequence 4, Application US/09240639 Patent No. 6350447 GENERAL INFORMATION:

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TITLE OF INVENTION: METHODS AND COMPOSITIONS RELATING TO CD39-LIKE TITLE OF INVENTION: METHODS AND COMPOSITIONS RELATING TO CD39-LIKE TITLE OF INVENTION: POLYPEPTIDES AND NUCLEIC ACIDS FILE REPERENCE: 9580-06
CURRENT APPLICATION NUMBER: US/09/240,639
NUMBER OF SEQ ID NOS: 29
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 4
                                                                                                                                                                                                                                                                                                          7;
                                                                                                                                                                                                                                                                     Length 529;
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TQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVA-SNEI
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Sequence 4, Application US/10107660

Sequence 10. 6780977

GENERAL INFORMATION:

APPLICANT: Chadwick, Brian Paul

APPLICANT: Frischauf, Anna Maria

TITLE OF INVENTION: POLIYEPPILDES AND COMPOSITIONS RELATING TO CD39-LIKE

TITLE OF INVENTION: POLIYEPPILDES AND NUCLEIC ACIDS

FILE REFERENCE: 9598-066

CURRENT APPLICATION NUMBER: US/10/107,660

CURRENT APPLICATION NUMBER: US/90/240,639

FRIOR FILING DATE: 1999-01-29

NUMBER OF SEQ ID NOS: 29

SOFTWARE: Patentin Ver: 2.0

SEQ ID NO 4
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164 MLSLTNQIPAESPL 477
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ORGANISM: Homo sapiens
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Best Local Similarity
Matches 180; Conserv
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38.5%; Score 910.5; DB 4;
Best Local Similarity 41.5%; Pred. No. 4.4e-89;
Matches 180; Conservative 79; Mismatches 168;
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Best Local Similarity 41.5%; Pred. No. 4.4e-89;
Matches 180; Conservative 79; Mismatches 168;
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PACENT NO. 6780410
GENERAL INFORMATION:
APPLICANT: Chadwick, Brian Paul
APPLICANT: Chadwick, Brian Paul
APPLICANT: Chadwick, Brian Paul
APPLICANT: Fischauf, Anna Maria
TITLE OF INVENITON: METHODS AND COMPOSITIONS
TITLE OF INVENITON: ACIDS
FILE REFERENCE: 28110/36120A
CURRENT APPLICATION NUMBER: US/09/905,744B
CURRENT APPLICATION NUMBER: 09/240,639
PRIOR APPLICATION NUMBER: 09/240,639
PRIOR FILING DATE: 1999-01-29
NUMBER OF SEQ ID NOS: 32
SEQ ID NO 4
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ORGANISM: Homo Sapiens
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APPLICANT: Chadwick, Brian Paul
APPLICANT: Chadwick, Anna Maria
TITLE OF INVENTION: METHODS AND COMPOSITIONS RELATING TO CD39-LIKE POLYPEPTIDES AND
FILE REFERENCE: 28110/361208
CURRENT APPLICATION NUMBER: US/09/905,7328
CURRENT APPLICATION NUMBER: 09/240,639
PRIOR APPLICATION NUMBER: 09/240,639
PRIOR FILING DATE: 1999-01-29
SUFFWARE: PACENTIN VEXBION 3.1
SEC ID NO 4
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APPLICANT: MATZ, WITH
APPLICANT: JIANG, FENG
TITLE OF INVENTION: DETECTION AND DIAGNOSIS OF SMOKING RELATED CANCERS
FILE REFERENCE: UTSC:658US
CURRENT APPLICATION NUMBER: US/09/923,304
CURRENT FILING DATE: 2001-08-06
NUMBER OF SEQ ID NOS: 11
SOFTWARE: PATENTIN Ver. 2.1
SEQ ID NO 4
LENGTH: 529
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41.5%; Pred. No. 4.4e-89;
tive 79; Mismatches 168;
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US-09-923-304-4
; Sequence 4, Application US/09923304
; Patent No. 6797471
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Best Local Similarity 41.5'
Matches 180; Conservative
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CRGANISM: Homo sapiens
US-09-923-304-4
SENERAL INFORMATION:
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APPLICANT: Chadwick, Brian Paul
APPLICANT: Chadwick, Brian Paul
APPLICANT: Frischauf, Anna Maria
TITLE OF INVENTION: METHODS AND COMPOSITIONS RELATING TO CD39-LIKE POLYPEPTIDES AND
TITLE OF INVENTION: ACIDS
FILE REPRESENCE: 28110/36120H
CURRENT APPLICATION NUMBER: US/10/107,576
CURRENT FILING DATE: 2002-03-27
PRIOR PILING DATE: 1999-01-29
NUMBER OF SEQ ID NOS: 32
SOFTWARE: Patentin version 3.1
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; Patent No. 6787328
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Patent No. 6783959
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ORGANISM: Homo Sapiens
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COMPOSITIONS RELATING TO CD39-LIKE POLYPEPTIDES
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41.5%; Pred. No. 4.4e-89;
live 79; Mismatches 168;
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GENERAL INFORMATION:
GENERAL INFORMATION:
FELICANT: Chadwick, Brian Paul
APPLICANT: Friechauf, Anna Maria
TITLE OF INVENTION: METHODS AND COMPOSITIONS
TITLE OF INVENTION: METHODS AND COMPOSITIONS
TITLE OF INVENTION: ACIDS
CURRENT APPLICATION NUMBER: 09/905,743B
CURRENT FILING DATE: 2001-07-13
PRIOR APPLICATION NUMBER: 09/240,639
PRIOR FILING DATE: 1999-01-29
NUMBER OF SEQ ID NOS: 32
SOFTWARE: PATENTIN VERSION 3.1
SEQ ID NO 4
SEQ ID NO 4
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464 MLSLTNQIPAESPL 477
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Best Local Similarity 41.54
Matches 180; Conservative
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ORGANISM: Homo Sapiens
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FARELL NO. TOTAGE ET AL.

APPLICANT: VENTER, J. Craig et al.

TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED

TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED

TITLE OF INVENTION: MITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF

CURRENT APPLICATION NUMBER: 105/99/949,016

CURRENT FILING DATE: 2000-04-14,755

PRIOR APPLICATION NUMBER: 60/241,755

PRIOR APPLICATION NUMBER: 60/231,498

PRIOR APPLICATION NUMBER: 60/231,498

PRIOR FILING DATE: 2000-10-03

PRIOR FILING DATE: 2000-10-03

SPRIOR FILING DATE: 2000-10-03

SEQ ID NOS: 207012

SOFTWARE: FASESEQ FOR WINGOWS VERSION 4.0
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180; Conservative 79; Mismatches 168;
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38.5%; Score 910.5; DB 4;
Best Local Similarity 41.5%; Pred. No. 4.4e-89;
Matches 180; Conservative 79; Mismatches 168;
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Patent No. 6812339
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ORGANISM: Human
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US-09-949-016-6049
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Patent No. 6812339

GENERAL INFORMATION:

APPLICANT: VENTER, J. Craig et al.

TITLE OF INVENTION: POLYMORPHIGMS IN KNOWN GENES ASSOCIATED

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF

FILE REPERENT APPLICATION NUMBER: US/09/949,016

CURRENT APPLICATION NUMBER: 00/241,755

PRIOR FILING DATE: 2000-10-20

PRIOR FILING DATE: 2000-10-03

PRIOR FILING DATE: 2000-10-03

PRIOR PLILNG DATE: 2000-10-03

PRIOR PLILNG DATE: 2000-10-03

PRIOR PLILNG DATE: 2000-09-08

NUMBER OF SEQ ID NOS: 207012

SOCTHARE: PaugiSEQ for Windows Version 4.0

SEQ ID NO 11328

LENGTH: 556
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362 EEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGY
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; ORGANISM: Human
US-09-949-016-11328
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Sequence 11559, Application US/09949016

Sequence 11559, Application US/09949016

Patent No. 6812339

GENERAL INFORMATION:
PAPELICANT: VENTER, J. Craig et al.
TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED
TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED
TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF;
FILE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF;
FILE OF INVENTION NUMBER: US/09/949,016
CURRENT APPLICATION NUMBER: 00/241,755
PRIOR FILING DATE: 2000-10-20
PRIOR FILING DATE: 2000-10-03
PRIOR FILING DATE: 2000-10-03
PRIOR FILING DATE: 2000-10-03
PRIOR FILING DATE: 2000-10-06
SOUTHWARE: POSC ID NOS: 207012
SOUTHWARE: PASC FOR Windows Version 4.0
SEQ ID NO 11559
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       294 QSILELFNTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFL--NLTSEKVSQEKVTE 351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               352 MMKKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQ 411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           36 TRDVREPPALKYGIVLDAGSSHTSMFIYKWPADKENDTGIVGQHSSCDVPGGGISSYADN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               65 VNEIGIYLIDCMERAREVIPRSOHOETPVYLGATAGMRLLRMESEELADRVLDVVERSLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            210 GGASTQITF---ETTSPAEDRASEVQLHLYGQHYRVYTHSFLCYGRDQVLQRLLASALQT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5 TONKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       125 NYPPDFQGARIITGQBBGAYGWITINYLLG---KFSQKTRWFSIVPYBTNNQBTFGALDL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              54;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 36.5%; Score 865; DB 4; Length 479; Best Local Similarity 41.3%; Pred. No. 3e-84; Matches 183; Conservative 69; Mismatches 137; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            379 AAVNVCNQTWAQ------
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time: 20.8788 secs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; ORGANISM: Human
US-09-949-016-11559
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GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
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OM protein - protein search, using sw model

March 7, 2005, 12:50:51; Search time 61.3608 Seconds (without alignments) 3655.279 Million cell updates/sec Run on:

US-09-835-147A-2_COPY_39_476 2343 1 QNKALPENVKYGIVLDAGSS......NLTNMIPAEQPLSTPLSHST 438 Title: Perfect score: Sequence:

1612378 seqs, 512079187 residues Searched:

BLOSUM62 Gapop 10.0 , Gapext 0.5

Scoring table:

1612378 Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 200000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

UniProt_03:*
1: uniprot_sprot:*
2: uniprot_trembl:* Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

STIMMARTES

	Description	P49961 homo sapien	P55772 mus musculu	Q8cdv7 mus musculu	Q921q6 mus musculu	Q86vv3 homo sapien	P97687 rattus norv	Q9myu4 sus scrofa	O18956 bos taurus	Q8ceb1 mus musculu	Q6dfs1 xenopus tro	Q6gp74 xenopus lae	Q6dc46 brachydanio	Q6uq22 mus musculu	gallus	O90x66 gallus gall	brachy	035795 rattus norv	Q7t014 brachydanio	O55026 mus musculu	-	P79784 gallus gall	• •	Q6gna4 xenopus lae	Q6nvi9 xenopus tro	Q80z26 rattus norv	075355 homo sapien	Q6uvz0 homo sapien	Q9y513 homo sapien	Osbfw6 m mus muscu	Q6zm68 brachydanio	Q8n6k2 homo sapien
SUMMARIES	αI	ENP1 HUMAN	ENP1_MOUSE	Q8CD <u>V</u> 7	092106	Q86VV3	ENP1_RAT	ENP1_PIG	ENP1_BOVIN	Q8CEB1	Q6DFS1	Q6GP74	Q6DC46	Q6UQ22	ENP1_CHICK	Q90X66	O6ZM69	ENP2_RAT	Q7T014	ENP2 MOUSE	Q921R1	ENP2_CHICK	Q661 <u>6</u> 4	Q6GNA4	06NVI9	Q80Z26	ENP3 HUMAN	Q6UVZ0	ENP2_HUMAN	Q8BFW6	Q6ZM68	Q8N6K2
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di	Query Match	100.0	78.1	78.1	77.9	77.6	76.4	73.0	71.9	67.2	61.9	60.5	55.8	44.6	42.9	42.6	41.5	41.3	41.0	41.0	41.0	40.7	40.0	39.9	39.8	39.0	38.9	38.7	38.7	38.5	36.4	35.2
	Score	2343	1830	1830	1825	1818	1789.5	1710	1685.5	1574	1450	1418	1306.5	1046	1004	997	973	966.5	196	959.5	959.5	953	937.5	936	933	913.5	910.5	906.5	906.5	902.5	854	825.5
	Result No.	1	7	m	4	'n	ø	7	80	σ	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	56	27	28	29	30	31

Q7yta4 schistosoma	Q8k0l2 mus musculu	Q8uvx9 torpedo mar	Q9xi62 arabidopsis		Q94ap8 arabidopsis		Q62543 oryza sativ		Q8ccv2 mus musculu	Q94ez2 arabidopsis	Q9m9t7 arabidopsis	Q6dh30 brachydanio	O80612 arabidopsis
Q7YTA4	Q8K0L2	Q8UVX9	Q9X162	Q6NQA8	Q94AP8	Q8H1D8	Q62543	Q6FRC2	QBCCV2	Q94E22	Q9M9T7	Q6DH30	080612
N	~	~	~	~	~	~	~	7	~	7	7	~	7
544	300	209	483	488	503	503	537	634	336	555	405	611	555
28.1	26.5	25.5	21.6	21.5	21.0	21.0	20.7	20.6	20.6	20.1	20.0	19.9	19.9
658	620.5	596.5	202	504	491	491	485	483	482.5	471.5	469.5	466	465.5
32	33	34	35	36	37	38	39	40	41	42	43	44	45

ALIGNMENTS

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AJ133133; CAB41886.1; -. AJ133134; CAB41887.1; -.
                                                                                          EMBL; S73813; AAB32152.1; -.
                                                                                            AAB47572
          FUNCTION
                                                                                             EMBL;
EMBL;
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CONFLICT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Name=Placental I;
IsoId=M49961-2; Sequence=VSP_003607;
Name=Placental II;
Name=Placental II;
Sequence=VSP_003607, VSP_003608, VSP_003609;
ISOId=P49961-3; Sequence=VSP_003607, VSP_003608, VSP_003609;
TISSUE SPECIFICITY: Expressed primarily on activated lymphoid
cells. Also expressed in endothelial tissues. The vascular isoform and the placental isoform II are present in both placenta and umbilical vein, whereas placental isoform I is present in placenta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Koziak K., Khczmarek E., Kittel A., Sevigny J., Blusztajn J.K.,
Schulte Am Ebch J. II, Imai M., Guckelberger O., Goepfert C., Qawi I.,
                        ż
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     caveolae.",
J. Biol. Chem. 275:2057-2062(2000).
J. Biol. Chem. 275:2057-2062(2000).
J. Biol. Chem. 275:2057-2062(2000).
J. Biol. Chem. 275:2057-2062(2000).
J. Biol. Chem. 275:2057-2062(2000).
J. Biol. Chem. 275:2057-2062(2000).
J. Biol. Chem. Could also be implicated in the prevention of platelet aggregation.
J. Supplyzes ATP and ADP equally wall.
J. CATALYTIC ATTYLY ATP + 2 H(2)0 = AMP + 2 phosphate.
J. COPACTOR: Requires calcium and magnesium.
J. SUBUNIT: Homodimer; disulfide-linked (By similarity).
J. SUBCELLULAR LOCATION: Integral membrane protein (Potential).
J. ALTERNATIVE PRODUCTS:
Event_Alternative splicing; Named isoforms=3;
                   Makita K., Shimoyama T., Sakurai Y., Yagi H., Matsumoto M., Narita N Sakamoto Y., Saito S., Ikeda Y., Suzuki M., Titani K., Fujimura Y., "placental ecto-APP diphosphohydrolase: its structural feature distinct from CD39, localization and inhibition on shear-induced platelet aggregation.";

Int. J. Hematol. 68:297-310(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PIM: The N-terminus is blocked.

MISCELLANEOUS: Optimal pH is 7.0-7.5 with ATP as substrate and 7.5-8.0 with ADP.

SIMILARITY: Belongs to the GDA1 / CD39 NTPase family.

DATABASE: NAME=PROM; NOTE=CD guide CD39 entry;

WWW="http://www.ncbi.nlm.nih.gov/prow/cd/cd39.htm".
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Robson 8.C.;:
"Palmitoylation targets CD39/endothelial ATP diphosphohydrolase to
                                                                                                                                                                                                         MEDLINE=97115858; PubMed=8955160; DOI=10.1074/jbc.271.51.33116; Raczmarek E., Koziak K., Sevigny J., Siegel J.B., Anrather J., Beaudoin A.R., Bach F.H., Robson S.C.; "Identification and characterization of CD39/vascular ATP diphosphohydrolase."; J. Blol. Chem. 271:33116-33122(1996).
                                                                                                                                                                                                                                                                                                                                                                                        CHARACTERIZATION.
MEDLINE=96215267; pubMed=8626624; DOI=10.1074/jbc.271.17.10391;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PALMITOYLATION.
MEDLINE=20102721; PubMed=10636909; DOI=10.1074/jbc.275.3.2057;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Name=Vascular;
IsoId=P49961-1; Sequence=Displayed;
                                                                                                                                                                                                                                                                                                                                                                                                                                     Wang T.F., Guidotti G.;
"CD39 is an pcto-(Ca2+,Mg2+)-apyrase.";
J. Biol. Chem. 271:9898-9901(1996).
    MEDLINE=99062444; PubMed=9846014;
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398
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Cytoplasmic (Potential).
N-linked (GlCNAc. .) (Potential).
N-linked (GlCNAc. .) (Potential).
N-linked (GlCNAc. .) (Potential).
N-linked (GlCNAc. .) (Potential).
N-linked (GlCNAc. .) (Potential).
N-linked (GlCNAc. .) (Potential).
N-linked (GlCNAc. .) (Potential).
N-linked (GlCNAc. .) (Potential).
N-linked (GlCNAc. .) (Potential).
N-linked (GlCNAc. .) (Potential).
MEDT -> MGGTCNDTSQQ (in isoform Placental I and isoform Placental II).
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PFTSAPPAPTSCCFLFQIQ (in isoform Placental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    219 TQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEIL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241 RDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTSYC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   279 RDPCFHPGYKKVVVVVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTSYC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181 TQVTEVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEIL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQKV
GO; GO:0005887; C:integral to plasma membrane; TAS.
GO; GO:0007596; P:blood coagulation; TAS.
InterPro; IPR000407; GDA1_CD39_NTPase.
Pfam; P:PO1150; GDA1_CD39; 1.
PROSTE; PS01238; GDA1_CD39 NTPASE; 1.
Alternative splicing; Antigen; Calcium; Direct protein sequencing;
                                                                                                                                                                                                                                                                                                                                                                                                                                           /FTTd=VSP_003608.
Missing (in isoform Placental II).
/FTTd=SSP_003609.
SFTT== SSP_003609.
D -> K (in Ref. 5).
T -> TGET (in Ref. 4).
V -> Y (in Ref. 5).
V -> Y (in Ref. 5).
W, BAD87D2499649159 CRC64;
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                                                                                                           Glycoprotein; Hydrolase; Lipoprotein; Magnesium; Palmitate;
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                                                                                                                                                                Potential.
Extracellular (Potential).
Potential.
                                                                                                                                             Cytoplasmic (Potential).
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; Pred. No. 2e-176;
0; Mismatches 0
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Matches 438; Conservative
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RESULT 2 ENP1_MOUSE

PIR; 156242; 156242. Genew; HGNC:3363; ENTPD1. MIM; 601752; -.

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SEQUENCE FROM N.A.
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  CARBOHYD
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                                                                                                            CARBOHYD
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GO; GO: 0004050; F: apprase activity; IDA.
GO; GO: 0004050; F: apprase activity; IDA.
GO; GO: 0007186; F: apprase activity; IDA.
GO; GO: 0007186; P: G-protein coupled receptor protein signalin. . ; IDA.
GO; GO: 0009181; P: purine ribonucleoside diphosphate catabolism; IDA.
InterPro; IPR000407; GDAI_CD39 NTPASE.
PROSITE; PS01238; GDAI_CD39 NTPASE, 1.
Antigen: Calcium; Glycoprotein; Hydrolase; Magnesium; Transmembrane.
DOMAIN
TRANSMEM 17 37 Potential.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Cytogenet. Cell Genet. 81:287-289(1998).

-I- FUNCTION: In the nervous system, could hydrolyze ATP and other nuclectides to regulate purinergic neurotransmission. Could also be implicated in the prevention of platelet aggregation.

Hydrolydes ATP and ADP equally well.

-I- CATALYTIC ACTIVITY: ATP + 2 H(2)0 = AMP + 2 phosphate.

-I- COPACTOR: Requires calcium and magnesium (By similarity).

-I- SUBGUNIT; Homodimer; disulfidee-linked (By similarity).

-I- SUBGUNIT; Belongs to the GDAI / CD39 NTPase family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
MEDLINE=95015846; PubMed=7930580;
Maliazewski C.R., Delespesse G.J.T., Schoenborn M.A., Armitage R.J.
Fanslow W.C., Nakajima T., Baker E., Sutherland G.R., Poindexter K.
Birks C., Alpert A., Friend D., Gimpel S.D., Gayle R.B. III;
"The CD39 lymphoid cell activation antigen. Molecular cloning and
                                                                                                                                                                                                               Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Butheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus.
NCBI_TaxID=10090;
                                                                                                                                   cell
                                      01-NOV-1997 (Rel. 35, Created)
01-NOV-1997 (Rel. 35, Last sequence update)
01-NOV-1997 (Rel. 35, Last sequence update)
Ectonicleodide triphosphate diphosphohydrolase 1 (EC 3.6.1.5)
(NTPDasel) (Ecto-ATP diphosphohydrolase) (ATPDase) (Lymphoid (activation antigen) (Ecto-apyrase) (CD39 antigen).
Mame=Entpdl; Synonyms=Cd39;
Mus musculus (Mouse).
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  510 AA
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EMBL, AF041818, AAC33203.1; -.
EMBL, AF041812, AAC83203.1; -.
EMBL, AF041813, AAC83203.1; JOINED.
EMBL, AF041814, AAC83203.1; JOINED.
EMBL, AF041814, AAC83203.1; JOINED.
EMBL, AF041815, AAC83203.1; JOINED.
EMBL, AF041817, AAC83203.1; JOINED.
EMBL, AF041817, AAC83203.1; JOINED.
MGD, MGI.102805, Entpdl.
                                                                                                                                                                                                                                                                                                                                                                                                                                      structural characterization.";
J. Immunol. 153:3574-3583(1994).
  STANDARD;
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MOUSE
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DOMAIN
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MEDLINE=99279253; PubMed=10349636; DOI=10.1016/S0076-6879(99)03004-9;
Carninci P., Hayashizaki Y.;
"High-efficiency full-length cDNA cloning.";
Meth. Enzymol. 303:19-44(1999).
                                                                                                                                                                                                                                  Gape
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Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus
                                          (Potential).
(Potential).
(Potential).
(Potential).
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01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
Mus musculus adult male testis cDNA, RIKEN full-length enriched
11brary, clone:4921311C05 product:ectconucleoside triphosphate
diphosphohydrolase 1, full insert sequence.
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N-linked (GlCNAC...) (Potc
N-linked (GLCNAC...) (Potc
N-linked (GLCNAC...) (Potc
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STRAIN=CSTBL/66; TISSUE=Testis;
MEDLINE=21085660; PubMed=11217851; DOI=10.1038/35055500;
RIKEN FANYOM CONSORTIUM;
                                                                                                                                                                                   Length
                                                                                                                                                                                   Score 1830; DB 1;
Pred. No. 6.6e-136;
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510 AA;
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Adachi J., Aizawa K., Akimura T., Arakawa T., Bono H., Carninci P., Pukuda S., Puruno M., Hanagaki T., Hara A., Hashizume W., Hayashida K., Hayatsu M., Hirancto K., Hiracka T., Hirozane T., Hayashida K., Ishii Y., Itoh M., Kagawa I., Kasukawa T., Kawai J., Kojima Y., Kono M., Kono H., Kouda M., Koya S., Kurihara C., Matsuyawa T., Miyazaki A., Murata M., Nakamura M., Koya S., Nichihara C., Matsuyawa T., Miyazaki A., Murata M., Okazaki Y., Saito H., Saito H., Sakai C., Sakai M., Sakai M., Sakai D., Shibata K., Shinagawa A., Shiraki T., Sogabe Y., Tagawa A., Takahashi F., Takaku-Akahira S., Takeda Y., Tanaka T., Towaru A., Toya T., Yasunishi A., Muramatsu M., Hayashizaki Y., Submitted (JUL-2001) to the EMBL/GenBank/DDBJ databases.

R MGD, MGI-102805, Barcoli.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61 NEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSN 120
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GO; GO:0005605; C:basal lamina; IDA.
GO; GO:0004050; F:apyrase activity; IDA.
GO; GO:0004050; P:APP catabolism; IDA.
GO; GO:0001186; P:G-protein coupled receptor protein signalin. . .; IDA.
GO; GO:0001181; P:platelet activation; IDA.
GO; GO:0009181; P:platelet activation; IDA.
                                                                                         the RIKEN Genome Exploration Research Group Phase I & II Team, "Analysis of the mouse transcriptome based on functional annotation of
                                                                                                                                                                                                    STRAIN-C57BL/6J; TISSUE=Testis;
MEDLINE=20499374; PubMed=11042159; DOI=10.1101/gr.145100;
Carninci P., Shibata Y., Hayatsu N., Sugahara Y., Shibata K., Itoh M.,
Konno H., Okazati Y., Muramatsu M., Hayashizaki Y.;
Normalization and subtraction of cap-trapper-selected cDNAs to
prepare full-length cDNA libraries for rapid discovery of new genes.";
Genome Res. 10:1617-1630(2000).
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MEDLINE-2050913; PubMed=11076861; DOI=10.1101/gr.152600;
Shibata K., Itoh M., Aizawa K., Nagaoka S., Sasaki N., Carninci P.,
Konno H., Akiyama J., Nishi K., Nateunai T., Tashiro H., Itoh M.,
Sumi N., Ishii Y., Nakamura S., Hazama M., Nishine T., Harada A.,
Yamamocco R., Matsumoto H., Sakaguchi S., Ikegami T., Kashiwagi K.,
Fujiwake S., Inoue K., Togawa M., Ohara E., Watahiki M.,
Yoneda Y., Ishikawa T., Ozawa K., Tanaka T., Matsuura S., Kawai J.,
RIKEN integrated sequence analysis (RISA) system-384-format
Genome Res. 10:1757-1771(2000).
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                                                    STRAIN=C57BL/6J; TISSUE=Testis; The FANTOM Consortium,
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                                                                                                                              60,770 full-length cDNAB.";
Nature 420:563-573(2002).
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Matches 336; Conservative
Nature 409:685-690(2001)
                                    SEQUENCE FROM N.A.
                                                                                                                                                                                      FROM N.A.
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CERTAINCECECH II, TISSUE-Mammary tumor;

SETRAINCECECH II, TISSUE-Mammary tumor;

MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;

A Straubberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,

A Altschul S.F., Zeeberg B., Wagner L., Shenmen C.M., Schuler G.D.,

A Altschul S.F., Zeeberg B., Buctow K.H., Schaefer C.F., Bhat N.K.,

A Dokins R.F., Jordan H., Moore T., Max S.I., Wang J., Haich F.,

A Dokins R.F., Jordan H., Moore T., Max S.I., Wang J., Haich F.,

B Lownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

B Rows S.A., McEwan P.J., McKernan K.J., Abrameon R.D., Mullahy S.J.,

B Rosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunarathe P.H.,

Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,

Rahesley J., Helton B., Ketteman M., Madan A., Rodrigues S., Sanchez A.,

Mhiting M., Madan A., Young A.C., Shevchanko Y., Bouffard G.G.,

Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,

Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,

A Rahinski M.I., Skalska U., Smailus D.E., Schnerch A., Schein J.E.,

T "Generation and initial analysis of more than 15,000 full-length human
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                                                                                                                 PYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEK-~VSQEKVTEMMKKFCAQPWEE 358
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                         188 YPFDFQGAKIITGQEEGAYGWITINYLLGRFTQEQSWLSLIS-DSQKQETFGALDLGGAS
                                                                                                                                                                                241 RDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTSYC
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                                                                                         TOVTFVPONOTIESPDNALOFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEIL
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
NCBI_TaxID=10090;
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Last annotation update)
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01-DEC-2003 (TYEMBLEE]. 25,
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Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
Altschul S.F., Zeeberg B., Bustow K.H., Schaefer C.F., Bhat N.K.,
Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Haieh F.,
Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
Stapleron M., Soares M.B., Bonaldo M.F., Casavont T.L., Scheetz T.E.,
Brownstein M.J., Ugdin T.B., Toshlyuki S., Carninci P., Prange C.,
Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
Kichards S., Worley K.C., Hale S., García A.M., Gay L.J., Hulyk S.W.,
Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
                                                                                                                                                                                                                                                                                                 39 QNKPLPENVKYGIVLDAGSSHTNLYIYKWPAEKENDTGVVQQLEECQVKGPGISKYAQKT
                                                                                                                                                                                                                                                                                                                                                            61 NEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSN
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GO; GO:0006400; P:ATP catabolism; IDA.
GO; GO:0007186; P:G-protein coupled receptor protein signalin. ...;
GO; GO:0007186; P:platelet activation; IDA.
GO; GO:0009181; P:platelet activation; IDA.
PEO; GO:0009181; P:purine ribonucleoside diphosphate catabolism; IDA.
PEOSITE; PS01150; GDA1 CD39; 1.
PROSITE; PS01238; GDA1 CD39 NTPASE; 1.
SEQUENCE S10 AA; S7176 MW; E77BB644AE1413A0 CRC64;
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Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo.
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TISSUE-Lung;
MEDLINE-22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;
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Last annotation update)
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                                                                                                                                                                              77.9%; Score 1825; DB 2; 76.1%; Pred. No. 1.6e-135;
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Best Local Similarity 76.1:
Matches 335; Conservative
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Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G., Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C., Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S., Krzywinski M.I., Skalska U., Smailus D.E., Schnerch A., Schein J.E., Jones S.J., Marza M.A.; "Generation and initial analysis of more than 15,000 full-length human and mouse cDNA sequences.";
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Sciurognathi; Muridae; Murinae; Rattus
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"Characterization of brain ecto-apyrase: evidence for only one ecto-apyrase (CD39) gene.";
Brain Res. Mol. Brain Res. 47:295-302(1997).
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16-OCT-2001 (Rel. 40, Last sequence update)
25-OCT-2004 (Rel. 45, Last annotation update)
Ectoriucleoside triphosphate diphosphohydrolase 1 (EC 3.6.1.5)
(NTPDasel) (Ecto-ATP diphosphohydrolase) (ATPDase) (Lymphoid cactivation antigen) (Ecto-apyrase) (CD39 antigen).
Name=Entpdl; Synonyms=Cd39;
Rattus norvegicus (Rat).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 372;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0; Indels
                                                                                                                                                                                                                                                                                                                                                   Strausberg R.; Submitted (MAR-2003) to the EMBL/GenBank/DDBJ databases. EMBL; EC047664; AAH47664.1; CO5.0016781; ENGONOSCRIPER; ENGUATEDIAS activity; IEA. InterPro; IPR000407; GDAl_CD39_NTPASS. InterPro; GDAl_CD39_NTPASS. I. SPO1150; GDAl_CD39, I. SEQUENCE S172 AA; 42731 MW; ABBIDE1366356EB3 CRC64;
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STRAIN-Sprague-Dawley; TISSUE-Brain, and Hippocampus;
PubMed=9221928;
                                                                                                                                                                                                                           Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      77.6%; Score 1818; DB 2; I
100.0%; Pred. No. 3.9e-135;
iive 0; Mismatches 0;
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Mammalia; Eutheria; Rodentia;
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TISSUE=Lung;
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Sus scrofa (Pig)
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SEQUENCE FROM N.A. STREE-Cochlea; STRAINSWIERAT; TISSUE-Cochlea; STRAINSWIERAT; TISSUE-Cochlea; MEDLINE-20050856; PubMed-10581401; DOI-10.1016/S0169-1328X(99)00244-2; Vlajkovic S.M., Housley G.D., Greenwood D., Thorne P.R.; "Evidence for alternative splitcing of ecco-ATPase associated with Lermination of purinergic transmission "; Errmination of purinergic Transmission"; Brain Res. Mol. Brain Res. 73:85-92(1999).
                                                                                                                                                                                                                                                                       Neuropharmacology 36:1189-1200(1997).

-!-PUNCTION: In the nervous system, could hydrolyze ATP and other nucleotides to regulate purinergic neurotransmission. Could also be implicated in the prevention of platelet aggregation. Hydrolyzes ATP and ADP equally well.

-!-CATALYTIC ACTIVITY: ATP + 2 H(2)0 = AMP + 2 phosphate.
-!- COFACTOR: Requires calcium and magnesium.
-!- SUBGNIT: Homodiner; disulfide-linked (By similarity).
-!- SUBCELINGAR LOGATION: Integral membrane protein (Potential).
-!- TISSUB SPECIFICITY: Expressed in primary neurons and astrocytes, kidney, jiver, muscle, thymus, lung and spleen.
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                                                                                                                                                                      STRAIN=Sprague-Dawley, TISSUE=Brain, MEDLINE-990028-3908(97)00115-9; MEDLINE-98031057; PubMed-9364474; DOI=10.1016/S0028-3908(97)00115-9; Kegel B., Braun N., Heine P., Maliszewski C.R., Zimmermann H.; "An ecto-ATPase and an ecto-ATP diphosphohydrolase are expressed in rat brain.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       InterPro; IPR000407; GDA1_CD39_NTPase.
Pfam; PF01150; GDA1_CD39; 1.
PROSITE; PS01238; GDA1_CD39_NTPASE; 1.
Antigen; Calcium; Glycoprotein; Hydrolase; Magnesium; Transmembrane.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PTM: N-glycosylated.
SIMILARITY: Belongs to the GDA1 / CD39 NTPase family.
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N-linked (GlCNAc. .) (PN-linked (GLCNAC. .)
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51; Mismatches
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332
311 AA;
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Matches 327; Conserv
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                                            DPCFYPGYKKVVNVSELYGTPCTKRFEKKLPFNQFQVQGTGDYEQCHQSILKFFNNSHCP 338
                                                                                                                                                                                                                                                                                                                                                     360 KTSYAGVKEKYLSEYCFSGTVILSLILQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLN 419
QVTFVPQNQTIESPDNALOFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEILR 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTSYCP 301
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1. CAPALTIC ACTIVITY: ATP + 2 H(2)0 = AMP + 2 phosphate.

2. CAPALTIC ACTIVITY: ATP + 2 H(2)0 = AMP + 2 phosphate.

3. CAPACTOR: Requires calcium and magnesium (By similarity).

3. SUBCELLULAR LOCATION: Integral membrane protein (Potential).

3. SUBCELLULAR ENCATION: Integral membrane protein (Potential).

4. STRICHALLICHER (AMP of MASCIE). Spleen and lung.

5. CAPACTOR: Mascle, spleen and lung.

6. PTW: Cleaved into two polypeptides that seem to stay together by noncovalent interactions.

7. SIMILARITY: Belongs to the GDA1 / CD39 NTPase family.
                                                                                                                                                                                                                                                                                                             302 YSOCAFNGIFLPPLOGDFGAFSAFYFVMKFL-NLTSEKV-SOEKVTEMMKKFCAQPWEEI
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        16-OCT-2001 (Rel. 40, Last sequence update)
05-JUL-2004 (Rel. 44, Last annotation update)
Ectonucleoside triphosphate diphosphohydrolase 1 (EC 3.6.1.5)
(NTPDasel) (Ecto-ATP diphosphohydrolase) (ATPDase) (Lymphoid cell activation antigen) (Ecto-apyrase) (CD39 antigen).
Name-ENTPD1; Synonyms-CD39;
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MEDLINE=20325090; PubMed=10866813;
Lemmens R., Vanduffel L., Kittel A., Beaudoin A.R., Benrezzak O.,
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Sus.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota, Metazoa, Chordata, Craniata, Vertebrata,
Mammalia, Eutheria, Cetartiodactyla, Suina, Suidae,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   510 AA.
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Eur. J. Biochem. 267:4106-4114(2000)
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entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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Pfam; PF01150; GDA1_CD39_1.
PR051TE; PS01238; GDA1_CD39_NTPASE; 1.
Antigen; Calcium; Direct protein sequencing; Glycoprotein; Hydrolase; Magnesium; Transmembrane.
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                                                                                                                                             : Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=97115858; PubMed=8955160; DOI=10.1074/jbc.271.51.33116; Kaczmarek E., Koziak K., Sevigny J., Siegel J.B., Anrather J., Beaudoin A.R., Bach F.H., Robson S.C.; "Identification and characterization of CD39/vascular ATP
      16-OCT-2001 (Rel. 40, Last sequence update)
05-UUL-2004 (Rel. 44, Last annotation update)
Ectonucleoside triphosphate diphosphohydrolase 1 (EC 3.6.1.5)
(NYPDASE1) (Ecto-ATP diphosphohydrolase) (ATPDASE) (Lymphoid activation antigen) (CD39 antigen) (Ecto-apyrase).
                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE OF 97-103; 123-133; 136-140; 145-168 AND 459-471.
                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
TISSUB-Aortic endothelium;
Chang A.S., Carcia R.L., Chang S.M., Schilling W.P.;
Submitted (MAY-1997) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              65; Indels
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Extracellular (Potential).
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N-linked (GlCNAC...) (PN-linked (GLCNAC...)
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Mismatches 65;
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69.7%; Pred. No. 1.7e
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                                                                                                    Name=ENTPD1; Synonyms=CD39;
Bos taurus (Bovine).
Eukaryota; Metazoa; Chordata;
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es 308; Conserv
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Bovinae, Bos
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(See http://www.isb-sib.ch/announce/
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InterPro; IPR000407; GDA1_CD39_NTPase.
Pfan; PR01150; GDA1_CD39; 1.
PROSITE; PS641238; GDA1_CD39_NTPASE; 1.
Antigen; Calcium; Direct protein sequencing; Glycoprotein; Hydrolase; Magnesium; Transmembrane.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQKV
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diphosphohydrolase 1 27 kDa subunit.
Ectonicleoside triphosphate
diphosphohydrolase 1 54 kDa subunit.
Cytoplasmic (Potential).
Extracellular (Potential).
Cytoplasmic (Potential).
Cytoplasmic (Potential).
N-linked (GLNAc. ..) (Potential).
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                                                                                                                                                                                                  Ectonucleoside triphosphate
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    this statement is not removed.
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Matches 310; Conservative
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                    TQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEIL 240
                                                                                                     SYCPYSOCAFNGIFLPPLOGDFGAFSAFYFVMKFLNLTSEX-VSOEKVTEMMKKFCAQPW 356
                                                                                                                                                                                    NEIGIYLTDCMERAREVIPRSQHQETPVYLGATACMRLLRMESEELADRVLDVVERSLSN 120
                                                                                                                                  241 RDPCFHPGYKKVVNVSDLYKTPCTKRFEMT---LPFQQFEIQGIGNYQQCHQSILELFNT 297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRAIN=CSTRIL/6J; TISSUE=Skin;
The FANTOM Consortium,
the RIKEN Genome Exploration Research Group Phase I & II Team;
the RIKEN Genome Exploration Research Group Phase I & II Team;
"Analysis of the mouse transcriptome based on functional annotation of 60,770 full-length cDNAs.";
Nature 420:563-573(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STRAIN=C57BL/6J; TISSUB=Skin; MEDLINE=20499374; PubMed=11042159; DOI=10.1101/gr.145100; Carninci P., Shibata Y., Hayatsu N., Sugahara Y., Shibata K., Itoh M., Konno H., Okazaki Y., Muramatsu M., Hayashizaki Y.;
                                                                                                                                                                                                                  EEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
STRAIN=CS7BL/6J; TISSUE=Skin;
MEDLINE=99279253; PubMed=10349636; DOI=10.1016/S0076-6879(99)03004-9;
Carninci P., Hayashlzaki Y.;
"High-efficiency full-length cDNA cloning.";
Meth. Enzymol. 303:19-44(1999).
                                                                                                                                                                                                                                                                                                                                     01-WAR-2003 (TrEMBLrel. 23, Created)
01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
Mus musculus 10 days neonate skin cDNA, RIKEN full-length enriched
library, clone :4732419M16 product:ectconucleoside triphosphate
diphosphohydrolase 1, full insert sequence. (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                    Craniata; Vertebrata; Euteleostomi;
Sciurognathi; Muridae; Murinae; Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
STRAIN=C57BL/6J; TISSUE=Skin;
STRAIN=C57BL/6J; TISSUE=11217851; DOI=10.1038/35055500;
RIKEN PANTOM CONSORTIUM;
"Functional annotation of a full-length mouse cDNA collection.";
                                                                                                                                                                                                                                                                                                                                 420 AA.
                                                                                                                                                                                                                                                                      MINITAMIPAEOPLSTPLSHST 438
                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Nature 409:685-690(2001)
                                                                                                                                                                                                                                                                                                                                                                                                                           Mus musculus (Mouse)
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Adachi J., Alzawa K., Akimura T., Arakawa T., Bono H., Carninci P.,
Adachi J., Alzawa K., Akimura T., Hara A., Hashizume W.,
B. Furuno M., Hanagaki T., Haracka T., Hirozane T.,
Hayashida K., Hayatuu N., Hizamoto K., Hiracka T., Hirozane T.,
Kathi F., Imotani K., Ishii Y., Itoh M., Kagawa I., Kasukawa T.,
Katoh H., Kawai J., Kojima Y., Kondo S., Konno H., Kouda M., Koya S.,
Kurihara C., Matsuvama T., Miyazaki A., Murata M., Nakamura M.,
Nishi K., Nomura K., Numazaki R., Ohno M., Ohsato N., Okazaki Y.,
A Saitoh H., Sakai C., Sakai K., Sakazume N., Sano H.,
Sasaki D., Shibata K., Shinagawa A., Shiraki T., Sogabe Y., Tagami M.,
Tagawa A., Takahashi F., Takaku-Akahira S., Takeda Y., Tanaka T.,
Submitted (JUL-2001) to the EMBL/GenBank/DDBJ databases.

EMBL, AKO28625; BAC26037.1; -.
"Normalization and subtraction of cap-trapper-selected cDNAs to prepare full-length cDNA libraries for rapid discovery of new genes."; Genome Res. 10:1617-1630(2000).
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GO; GO:0005605; C:basal lamina; IDA.
GO; GO:0016021; C:integral to membrane; TAS.
GO; GO:0004050; F:apyrase activity; IDA.
GO; GO:000186; P:ATP catabolism; IDA.
GO; GO:0007186; P:G-protein coupled receptor protein signalin. .;
GO; GO:0009188; P:platelet activation; IDA.
GO; GO:0009181; P:purine ribonucleoside diphosphate catabolism; IDA.
InterPro; IPR000407; GDA1_CD39_NTPase.
PF01150; GDA1_CD39; I.
                                                                                                                                         STRAIN-C57BL/6J; TISSUB-Skin; MEDLING-101101/gr.152600; MEDLINE-20530913; PubMed=11076861; DOI=10.1101/gr.152600; Shibata K., Itoh M., Aizawa K., Nagaoka S., Sasaki N., Carninci P., Konno H., Akiyama J., Nishi K., Kitsunai T., Tashiro H., Itoh M., Sumi N., Ishii Y., Nakamura S., Hazawa M., Nishine T., Harada A., Yamamoto R., Matsumoto H., Sakaguchi S., Ikegami T., Kashiwagi K., Fujiwake S., Inoue K., Togawa W., Izawa M., Obara E., Watsukayi K., Yoneda Y., Ishikawa T., Ozawa K., Tanaka T., Matsuura S., Kawai J., Rikku integrated sequence analysis (RISA) system-184-format gequencing pipeline with 384 multicapillary sequencer.;;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PROSITE; PS01238; GDA1_CD39_NTPASE; 1.
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MEDLINE=2238825; PubMed=12477932; DOI=10.1073/pnas.242603899;
A Klausher R.L., Feingold E.A., Grouse L.H., Derge J.G.,
A Altschul S.F., Zeeberg B. Buetow K.H., Schaefer C.F., Bhat N.K.,
A Altschul S.F., Zeeberg B. Buetow K.H., Schaefer C.F., Bhat N.K.,
Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
A Altschul S.F., Zeeberg B. Buetow K.H., Schaefer C.F., Bhat N.K.,
Hopkins R.F., Jordan H., Moore T., Max. S.I., Wang J., Hsieh F.,
A Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
A Kichards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
A Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
A Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
Muting M., Touchman J.W., Green E.D., Dickson M.C.,
Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
Jones S.J., Marra M.A.,
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                                                         218 TQITFESKRE-IESQENSLHFRLYGKSYDIYTHSFLCYGKDQALRLQIANSIKDATDSIL 276
                                                                                                                                                PYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEEIK 360
                                                                                                                                                                                                                                   337 TYSHCSFNGVPQPSLDGTFGAFSAYYFVMNFLNLTNEQMSLDKVKETVERHCSRPWDEVK 396
                                                                                                                                                                                                                                                                                                 361 TSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHPIGKIQGSDAGWTLGYMLNL 420
                                                                                                                                                                                                                                                                                                                        TOVIFVPONOTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEIL
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Amphibia, Batrachia, Anura, Mesobatrachia, Pipoidea, Pipidae,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE=22341132; PubMed=12454917; DOI=10.1002/dvdy.10174;
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Last annotation update)
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                                                                                                                                                                                                                                                                                                                                                                                                                         457 TNMIPAELPYSPPLSHA 473
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TISSUE=Spleen;
Klein S., Gerhard D.S.;
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TISSUE=Spleen;
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Name=MGC80631;
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TISSUE=Spleen;
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Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,

Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,

Appkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

Diatcheno, J., Marusins K., Farmer A.A., Rubin G.M., Hong L.,

An Stapleton M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,

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Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

Villaton D.K., Muzny D.M., Sodergren B.J., Lu X., Gibbs R.A.,

Rahe, J., Helton E., Ketreman M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,

Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,

Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,

Schultz J., Marra M.A.,

Jones S.J., Marra M.A.,

Scherzation and initial analysis of more than 15,000 full-length human
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300 PCSKSWBETKTSYPSVKEKYLSBYCFSGAYILS-LLQGYNFTGSSWBQIHFMGKIKDSNA 358
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                                                                                                                                                                                                                                                                                                                                                                                  Xenopus tropicalis (Western clawed frog) (Silurana tropicalis).
Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Amphibia, Batrachia, Anura, Mesobatrachia, Pipoidea, Pipidae,
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Submitted (JUL-2004) to the EMBL/GenBank/DDBJ databases.
EMBL; BCOT6662; AAH76662.1; -.
GO; GO:0016787; P:hydrolase activity; IEA.
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3A1_CD39_NTPASE; 1.
57322_MW; 12CAEACOSBEABDEB_CRC64;
                                                                                                                                                                                                                                                                                               Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
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60.2%; Pred. No. 6.8e-106;
ive 75; Mismatches 97;
                                                                                                                                                                                                                               508 AA
                                                                       411 GWTLGYMLNLTNMIPAEQPLSTPLSHST 438
                                                                                                                359 GWTLGYMLNLTNMIPAEQPLSPPLPHST 386
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Pfam; PF01150; GDA1 CD39; 1.
PROSITE; PS61238; GDA1 CD39 NTPASE; 1.
SEQUENCE 508 AA; 57700 MM.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               sednences.
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                                                                                                                                                                                                                               PRELIMINARY;
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                                                                                                                                                                                                                                                                                                                                         Entpd1-prov protein.
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                  Name=entpd1-prov;
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mouse
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                                                                                                                                                                                                                                                         NEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSN 120
                                                                                                                                                           SEQUENCE FROW N.A.
SEQUENCE FROW N.A.
STRAIN=Singapore local strain; TISSUB=Embryo;
STRAIN=Singapore local strain; TISSUB=Embryo;
Straubsberg R.L.; Feingold E.A., Grouse L.H., Derge J.G.,
Straubsberg R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.B.,
Brownstein M.J., Usdin T.B., Toshlyuki S., Carninci P., Prange C.,
Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
                                                                                                                                                                                                                                                                                                                                         RDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFE1QG1GNYQQCHQS1LELFNTSYC
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                                                                                                                                             ONKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVBECRVKGPGISKFVQKV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Brachydanio rerio (Zebrafish) (Danio rerio).

Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi, Actinopterygii, Neopterygii, Teleostei, Ostariophysi, Cypriniformes, Cyprinidae, Danio.

NCBI_TaxID=7955;
                                                                                                                       5
                                                                                              Length 508;
                                                                                            60.5%; Score 1418; DB 2; Length 5
59.1%; Pred. No. 2.3e-103;
ive 72; Mismatches 105; Indels
(JUN-2004) to the EMBL/GenBank/DDBJ databases.
          EMBL, BC073267, AAH73267.1, -..., GO, GO:0016787, F:hydrolase activity; IEA.

InterPro; IPR000407; GDA1_CD39_NTPase.

Pfam; PF01150; GDA1_CD39, NTPASE; 1.

SEQUENCE 508 AA; 57049 MW; BD205818A06C523B CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             492 AA
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                                                                                                                        259; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRELIMINARY;
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Name=zgc:100819;
                                                                                                            Similarity
   Submitted
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066054
AC 06004
AC 06004
DT 25-00
DT 25-00
DT 25-00
DT 25-00
DE Zgc:1
CN Brach
OC Bukar
OC Bukar
OC Cypri
OX NCI
RN SEQUE
RA SEQUE
RA SERAM
RA Altso
RA HOPKI
RA BLOWN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSN 120
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Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
Blakesley R.W., Touchman J.W., Green B.D., Dickson M.C.,
Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,
Krzywhinski M.I., Skalaka U., Smailus D.E., Schnerch A., Schein J.B.,
Jones S.J., Marra M.A.;
"Generation and initial analysis of more than 15,000 full-length human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EBIKTSYAGVKEKYLSEYCFSGTYILSLILQGYHFTADSWEHIHFIGKIQGSDAGWTLGY
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 ONKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQKV
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Sciurognathi; Muridae; Musinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          23;
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DT 05-JUL-2004 (TrEMBLrel. 27, Last sequence update)
DT 05-JUL-2004 (TrEMBLrel. 27, Last sequence update)
DT Nucleoside triphosphate diphosphohydrolase-8 (EC 3.6.1.5).
GN Name=Entpd8:
OS Mus musculus (Mouse).
CEUkaryota; Metazoa; Chordata; Craniata; Vertebrata; Eureles Mamalia; Eutheria; Rodentia; Sciurcomath:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2; Length
                                                                                                                                                                                                                                                                                                               STRAIN-Singapore local strain; TISSUE-Embryo;
Director MGC Project;
Director MGC Project;
Submitted (UUL-2004) to the EMBL/GenBank/DDBJ databases.
EMBL; BC072240; TR1041.3, -1.
GO; GO: 0016787; F: Hydrolase activity; IEA.
InterPro; IPR00467; GDAL CD39_NTPase.
Pfam; PF01150; GDAL CD39_NTPASE; 1.
PROSITE; PS01238; GDAL CD39_NTPASE; 1.
SEQUENCE 492 AA; 55507 MW; B789AB6DFC6A032B CRC64;
                                                                                                                                                                                                                                          Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1.4e-94;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        55.8%; Score 1306.5;
57.0%; Pred. No. 1.4e
tive 64; Mismatches
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                                                                                                                                                                                                                         cDNA sequences.
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SEQUENCE FROM N.A.
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diphosphohydrolase.";
J. Biol. Chem. 273:16043-16049(1998)
                                                                                                                                                                                                                                                                                                                                                                                                   Magnesium;
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                                                                                                                                                                                                                   34 NVLLPADTKFGIVFDAGSSHTSLFVYQWPANKEKDTGVVSQALTCQIEGPGISSYTSDPT 93
                                                                                                                                                                                                       2 NKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQKVN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gallus gallus (Chicken).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Archosauria, Aves, Neognathae, Galliformes, Phasianidae, Phasianinae,
SEQUENCE FROM N.A.
STRAIN=C57BL/6; TISSUE=Liver;
Strain=C57BL/6; TISSUE=Liver;
Stagonnesse F., Levesque S.A., Kukulski F., Lecka J., Robson S.C.,
Fernandes M.J.G., Sevigny J.;
Submitted (Aug-2003) to the EMBL/GenBank/DDBJ databases.
EMBL; AY364412; AAQ84519.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
05-JUL-2004 (Rel. 44, Last annotation update)
Ectonucleoside triphosphate diphosphohydrolase 1 (EC 3.6.1.5)
(NTPDasel) (Ecto-ATP diphosphohydrolase) (Arpbase) (Lymphoid cell activation antigen) (Ecto-apyrase) (CD39 antigen).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TISSUB-Oviduct,
MEDLINE=98298108; PubMed=9632655; DOI=10.1074/jbc.273.26.16043;
Nagy A.K., Knowles A.F., Nagami G.T.;
"Molecular cloning of the chicken oviduct ecto-ATP-
                                                                                                                                                           Length 497;
                                                                                                                                                                                  Indels
                                                                                                                                     497 AA; 54650 MW; 00DE822B6EEB1BDF CRC64;
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11 Similarity 47.9%; Pred. No. 5.4e-74;
210; Conservative 75; Mismatches 131;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       493 AA
                                                                  GO; GO:0004050; F:apyrase activity; IEA.
GO; GO:0016787; F:hydrolase activity; IEA.
HarerPro; IEA.
Pfam; PF01150; GDA1_CD39_NTPase.
PROSITE; PS01238; GDA1_CD39_NTPASE; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Name=ENTPD1; Synonyms=CD39;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STANDARD;
                                                                                                                                                          Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=9031;
                                                                                                                          Hydrolase.
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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                125 FQGARIITGQEEGAYGWITINYLLG---KFSQKTRWFSIVPYETNNQETFGALDLGGAST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5 LPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQKVNEIG
                                                     Lewis-Carl S., Kirley T.L.;

Lewis-Carl S., Kirley T.L.;

Immunolocalization of the ecto-ATPase and ecto-apyrase in chicken gizzard and stomach. Purification and N-terminal sequence of the stomach ecto-apyrase.";

J. Biol. Chem. 272:23645-23652(1997).

-! FUNCTION: In the nervous system, could hydrolyze ATP and other nucleotides to regulate purinergic neurotransmission. Could also be implicated in the prevention of platelet aggregation. Hydrolyzes ATP and ADP equally well (By similarity).

-! COFACTOR: Requires calcium and magnesium (By similarity).

-! SUBUNIT: Homodimer; disulfide-linked (Probable).

-! SUBCELULAR LOCATION: Integral membrane protein (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL; AF041355; AAC26491.1; -.
InterPro; IPR00407; GDA1_CD39_NTPase.
Pfan; PF01150; GDA1_CD39; 1.
PROSTIE; PS01238; GDA1_CD39_NTPASE; 1.
Antigen; Calcium; Direct protein sequencing; Glycoprotein; 'Hydrolase;
TISSUE=Stomach;
MEDLINE=97442428; PubMed=9295305; DOI=10.1074/jbc.272.38.23645;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (Potential)
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-> G (in Ref. 1; AA sequence)
F14FF4C3AA2F3603 CRC64;
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                                                                                                                                                                                                                                                                                                                                                       -1- CATALYTIC ACTIVITY: ATP + 2 H(2)O = AMP + 2 phosphate.
-1- COFACTOR: Requires calcium and magnesium (By similarit -1- SUBUNIT: Homodimer; disulfide-linked (Probable).
-1- SUBCELLULAR LOCATION: Integral membrane protein (Poten -1- PTM: N-glycosylated.
-1- PTM: N-glycosylated.
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Potential.

Cytoplasmic (Potential).

N-linked (GlCNAc...) (Potential).

N-linked (GlCNAc...) (Potential).

N-linked (GlCNAc...) (Potential).

N-linked (GlCNAc...) (Potential).

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45.7%; Pred. No. 1.1e-70;
ive 73; Mismatches 144; Indels
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21 I
54034 MW;
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21
493 AA;
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                                                                                                                                                                                                                                                                327 CGANRTCGFDGVYQPPVRGQFFAFAGFYYTFSFLNLTGQQ-SLSHVNATVWDFCNKNWSE 385
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                                210 QITEQP-GVTIEDKNTSVLFRLYGTNYSLYTHSYLCYGQIQASKRLMAALHQDGSYVQN- 267
                                                                                                                 239 ILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTS 298
                                                                                                                                              359 IKTSYAGVKEKYLSEYCFSGTYILSLILLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYML 418
                                                                                                                                                                                                                                                                                                                                                                           386 LVETFPQNKE-HLHTYCVVGLYILTLLVDGYKFDEHTWSNIHFSQKAGNADIGWTLGFML 444
QVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQA---LWQKLAKDIQVASNE 238
                                                                                                                                                                                                                               299 YCPYSQCAFNGIFLPPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEE 358
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
BCtO-ATP-diphosphohydrolase (EC 3.6.1.5).
Gallus gallus (Chicken).
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi; Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
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"Purification, characterization, cloning, and expression of characterization, cloning, and expression of the characterization, cloning, and expression of the characterization, cloning, and expression of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characterization of the characteriza
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PROSITE; PS01238; GDA1_CD39_NTPASE; 1.
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TISSUE=Liver;
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NCBI_TaxID=9031;
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01-DEC-2001
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Hydrolase.
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386 LVETPPQNKE-HLHTYCVGLYILTLLVDGYKFDEHTWSNIHFSQKAGNADIGWTLGFML 444
327 CGANRICGFDGVXQPPVRGQFFAFAGFYYTFSFLNLIGQQ-SLSHVNATVWDFCNRUWSE
                                                        359 IKTSYAGVKEKYLSEYCFSGTYILSLLLOGYHFTADSWEHIHFIGKIQGSDAGWTLGYML
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                                                                                                                                              419 NLTNMIPAE 427
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418

358

299 YCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEE

Human CD3 Human CD3 Human CD3 Human Can Human CD3 Angiogene

CD39 lymp Human BEC Angiogene Angiogene Angiogene

Adr69210
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Adr683337
Adr6733377
Adr683377

ABO84674
ADR87821
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	GenCore version 5.1.6 Copyright (c) 1993 - 2005 Compugen Ltd.	25 24 28 29	2343 2343 2343 2343	1000.0
OM protein - pr	OM protein - protein search, using sw model	310	2343	100.0
Run on:	March 7, 2005, 12:50:01; Search time 71.5518 Seconds (without alignments) 2367.530 Million cell undares	, w w w	2343 2343 2343	100.0
Title:	US-09-835-147A-2 COPY 39 476	36	2343	100.0
Perfect score: Sequence:	2343 1. ONKALPENVKYGIVLDAGSSNLTNMIPAEOPLSTPLSHST 438	8 E	2343	100.0
Scoring table:	BLOSUM62	4041	2294	97.9
	Gapop 10.0 , Gapext 0.5	42 43	2136 1969	91.2
Searched:	2105692 segs, 386760381 residues	4 4 4 5	1841	78.6

2105692

Total number of hits satisfying chosen parameters:

seq length: 0 seq length: 200000000

Minimum DB Maximum DB

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Database

ALIGNMENTS

AAB71918 standard; protein; 439 AA (first entry) 09-MAY-2001 AAB71918;

Soluble human CD39 polypeptide.

Human, CD39, vasotropic, cerebroprotective, haemostatic, thrombolytic, stroke, thrombotic disorder, ischaemic disorder. WO200111949-A1. Homo sapiens. 22-FEB-2001

11-AUG-2000; 2000WO-US022060.

(UYCO) UNIV COLUMBIA NEW YORK. 99US-00374586. 13-AUG-1999;

Pinsky DJ;

WPI; 2001-202805/20.

Treating stroke in a subject susceptible to intracranial hemorrhaging and an ischemic disorder, involves administering a CD39 polypeptide which inhibits ADP-mediated platelet aggregation or leukocyte accumulation.

Claim 3; Page 14; 118pp; English

The present sequence is the active fragment of human CD39. CD39 or its active fragment may be administered to treat or prevent stroke in a subject susceptible to intracranial haemorrhaging or an ischaemic disorder. The CD39 polypeptide inhibits ADP-mediated platelet aggregation or leukocyte accumulation and/or ATP by increasing ADP catabolism to the subject. CD39 or its active fragment is useful for treating or preventing stroke, thrombotic disorders and ischaemic disorders such as peripheral vascular disorder, pulmonary embolus, venous thrombosis, myocardial infarction, transient ischaemic attack, unstable angina, reversible ischaemic neurological deficit and sickle cell anaemia. It is also useful for treating or preventing a stroke disorder in a subject undergoing heart surgery, lung surgery, spinal surgery, brain surgery, vascular surgery, abdominal surgery, or organ transplantation surgery

geneseqp1980s:* geneseqp1990s:* geneseqp2000s:* geneseqp2001s:* geneseqp2001as:* geneseqp2001as:* A_Geneseq_16Dec04:* geneseqp2004s:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES				******************
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Description	Aab71918 Soluble h	Aay70913 Human sol		Aay70925 Human sol		Aay70922 Human sol	Aay70899 Protein e	Aay70924 Human sol	Aay70901 Protein e	Aay70923 Human sol	Aay70900 Protein e	Aay70911 Human CD3	Aay70888 Protein e	Aay70914 Human sol	Aay70891 Protein e	Aay70921 Human sol	Aay70898 Protein e	Aaw04334 Human lym	Aaw04264 Human CD3	Aay70910 Human sol	Aay70887 Human sol	Aab71917 Human CD3	Adj57262 Human CD3	Adi24295 Human CD3	Adq99453 Human CD3
QI QI	AAB71918	AAY70913	AAY70890	AAY70925	AAY70902	AAY70922	AAY70899	AAY70924	AAY70901	AAY70923	AAY70900	AAY70911	AAY70888	AAY70914	AAY70891	AAY70921	AAY70898	AAW04334	AAW04264	AAY70910	AAY70887	AAB71917	ADJ57262	ADL24295	ADQ99453
88	4.	m	m	m	е	m	m	٣	m	٣	m	m	ო	m	m	٣	m	~	0	m	m	4	7	œ	œ
Length	439	454	454	463	463	464	464	473	473	474	474	476	476	478	478	487	487	210	510	510	510	510	510	510	510
% Query Match	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Score	2343	2343	2343	2343	2343	2343	2343	2343	2343	2343	2343	2343	2343	2343	2343	2343	2343	2343	2343	2343	2343	2343	2343	2343	2343
Result No.		7	e	4	'n	φ	7	60	σ	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25

Gimpel SD;

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98US-0104585P. 98US-0107466P. 99US-0149010P.

99WO-US022955

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The present sequence is a fusion construct, comprising the N-terminal

amino acids of mature human interleukin2 (IL2) and soluble CD39 (solCD39)

cegion, that has apyrase activity. This results in high levels of solCD39

cegion, that has apyrase activity. This results in high levels of solCD39

cegion, that has apyrase activity. This results in high levels of solCD39

certains the capacity to metabolise AFP and ADP at relevant concentrations

and the ability to metabolise AFP and ADP at relevant concentrations

certains the capacity to metabolise AFP and ADP at relevant concentrations

and the ability to block and reverse ADP-induced platelet activation and

recruitment, including platelet aggregation. Soluble CD39 polypeptides

certains my including platelet aggregation soluble CD39 polypeptides

curstable angina, myocardial infarction, stroke, coronary artery disease

or injury, atherosclerosis, peripheral vascular occlusion, preeclampsia,

coronary and cerebral ischaemia, thrombosis (disorders including coronary,

cembolism, platelet associated ischaemic disorders including coronary,

cerpitheral and cerebral artery thrombosis, intracardiac and venous

thrombosis, coagulopathy, deep venous thrombosis (DVT), pulmonary

cembolism (PE) and transient ischaemic attack. Soluble CD39 is also useful

cerporating thrombus formation or reformation, occlusion, reocclusion,

cerporating thrombus formation or reformation, occlusion, reocclusion,
                                                                                                                                                                                                                                           New soluble CD39 polypeptides having apyrase activity, useful for inhibiting angiogenesis and treating unstable angina, myocardial infarction, stroke, coronary artery disease or injury.
                                                                                                                                                                                                                                                                                                                        Claim 6a; Page 95-97; 122pp; English
                                                                                                            (IMMV) IMMUNEX CORP.
                                                                                                                                                                                    WPI; 2000-339644/29.
N-PSDB; AAD00206.
                                                                                                                                                 Maliszewski CR,
                                 16-OCT-1998;
06-NOV-1998;
13-AUG-1999;
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                                                                                                                                                                                                          NEIGIYLTDCWERAREVIPRSQHQETPVYLGATAGWRLLRWESEELADRVLDVVERSLSN 120
                                                                                                                                                                                                                                   NEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSN 121
                                                                                                                                                                                                                                                                                                                                                               TQVİFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEIL 240
                                                                                                                                                                                                                                                                                                                                                                                       TQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEIL 241
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFELQGIGNYQQCHQSILELPNTSYC 301
                                                                                                                                                           YPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGAS
                                                                                                                                   1 QNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQKV
                                                                                              Gaps
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                                                       Length 439;
                                                                                                Indels

    .15
/label= Mature human_interleukin_2
/note= "N-terminal region"

                                                       ; Score 2343; DB 4;
; Pred. No. 1.1e-230;
0; Mismatches 0;
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                                                        100.08;
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                                                                                                Matches 438; Conservative
                                                                              Similarity
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Synthetic.
                       Sequence 439
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                                                            Query Match
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AAY70913
ID AAY7
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                                                                                                                       ONKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQKV
                                                                                      1 QNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQKV
                                                            Gaps
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                             Length 454;
                                                         Indels
                           Query Match 100.0%; Score 2343; DB 3; Best Local Similarity 100.0%; Pred. No. 1.2e-230; Matches 438; Conservative 0; Mismatches 0;
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Sequence 454 AA;
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16. .454 /note= "Human soluble CD39 protein"

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Protein

WO200023459-A1

27-APR-2000

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The present sequence is the protein enocoded by a fusion construct of sol (soluble) CD39 having apyrase activity. Fusion of 12 amino acids from the N-terminus of mature human IL2 to the solCD39 coding region results in high levels of mature human IL2 to the solCD39 coding region results transfected cells. This is used in the treatment of unstable angina, mycosrdial infarction, stroke, coronary artery disease or injury, atherosclerosis, peripheral vascular occlusion, preeclampsia, embolism, platelet-associated ischaemia, chrombocic disorder including coronary artery thrombosis, cerebral artery thrombosis, intracardiac thrombosis, peripheral artery thrombosis, thrombosis, thrombosis, coggulopathy, deep venous thrombosis (DVT), pulmonary embolism (PB),
                                                                                                                                                                                                                                                                 unstable angina, myocardiaî infarction, stroke, coronary artery disease, atherosclerosis, peripheral vascular occlusion, preeclampsia, embolism, platelet-associated ischaemic disorder, lung ischaemia, thrombolytic; cerebral ischaemia, thrombotic disorder, coronary artery thrombosis, cerebral artery thrombosis, intracardiac thrombosis, venous thrombosis,
                                                                                                                                                                                                                                                                                                                                                       peripheral artery thrombosis; coagulopathy; deep venous thrombosis; DVT; PB; pulmonary embolism; transient ischaemic attack; thrombus formation; occlusion; reocclusion; stenotsis; restenosis; antianginal; cardiant; cerebroprotective; antiarteriosclerotic; vasotropic; anticoagulant;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            mammal suffering from unstable angina, myocardial infarction, stroke, coronary artery disease or injury, comprises administering soluble CD39 polypeptides.
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                                                                                                                                                                                                                                                  Soluble CD39; ADP-induced platelet activation; platelet aggregation;
                                                                                                                                                                                                              Protein encoded by fusion construct of human soluble CD39 cDNA-1.
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    .15
/label= Mature human_interleukin_2
/note= "N-terminal region"

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
                                                                                                           AAY70890 standard; protein; 454 AA
(IMMV ) IMMUNEX CORP.
(CORR ) CORNELL RES FOUND INC.
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                                                                                                                                                                               (first entry)
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N-PSDB; AAD00201.
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Synthetic.
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transient ischaemic attack. Soluble CD39 is also useful for preventing thrombus formation or reformation, occlusion, reocclusion, stenosis or restenosis of blood vessels or stroke
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  317 PYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLISEKVSQEKVTEMMKKFCAQPWEBIK
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                                                                                                                               Gaps
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/label= Leader_peptide
/note= "Derived from human immunoglobulin Ig kappa"
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                                                                                                Length 454;
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/note= "Cleavage site of leader sequence"
21. .24
                                                                                                                               Indels
                                                                                                100.0%; Score 2343; DB 3; 100.0%; Pred. No. 1.2e-230;
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                                                                                                                            Matches 438; Conservative
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                                                                                                               Similarity
                                                                   Sequence 454 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                            unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; preeclampsia; embolism; platelet-associated ischaemic disorder; lung ischaemia; thrombolytic; cerebral ischaemia; thrombotic disorder; coronary artery thrombosis; cerebral artery thrombosis; intracardiac thrombosis; venous thrombosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 peripheral artery thrombosis; coagulopathy; deep venous thrombosis; DVT; PB; pulmonary embolism; transient ischaemic attack; thrombus formation; occlusion; recorosis; restenosis; antianginal; cardiant; cerebroprotective; antiarteriosclerotic; vasotropic; anticoagulant; coronary ischaemia; vascular occlusion; IgkappalsolCD39 construct.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Inhibiting platelet activation and recruitment, useful for treating a mammal suffering from unstable angina, myocardial infarction, stroke, coronary artery disease or injury, comprises administering soluble CD39 polypeptides.
                                                                                   386 TSYAGVKEKYLSBYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLNL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Soluble CD39; ADP-induced platelet activation; platelet aggregation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .. .20
'note= "Igkappa leader sequence"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Soluble portion of CD39"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note= "Derived from solCD39"
                                                                                                                                                                                                                                                                                                                                                                                                                      Protein encoded by IgkappalsolCD39 construct.
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/note= "Derived from IL-2"
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                                                                                                                                                                                                                                                                                                  AAY70902 standard; protein; 463
                                                                                                                                                    TUMIPAEQPLSTPLSHST 438
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98US-0107466P.
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(CORR ) CORNELL RES FOUND INC
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13-AUG-1999;
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                                                                    361
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This construct comprises of the leader peptide from human immunoglobulin Is deappa, linked to the soluble CD39 (solCD39) protein region by few residues derived from human interleukin 2 (hILD.) SolCD39 has apyrase activity and is constructed by removing the N- and C-terminal transmembrane domains. It retains the capacity to metabolise ATP and ADP at relevant concentrations and the ability to block and reverse ADP-induced platelet activation and recruitment, including platelet aggregation. Soluble CD39 polypeptides are useful for inhibiting anyocardial infarction, coronary artery disease or injury, embolism, atherosclerosis, peripheral vascular occlusion, preeclampsia, platelet associated ischemic disorders including lung, coronary and cerebral ischaemic disorders including coronary, peripheral and cerebral artery thrombotic disorders including coronary, peripheral and cerebral artery thrombotic disorders including coronary embolism (PE) coagulopathy, deep venous thrombosis (DVT), pulmonary embolism (PE) and transient ischaemic attack. Soluble CD39 is also useful for preventing thrombus formation or reformation, occlusion, recoclusion, stenosis or restenosis of blood vessels or stroke
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          'note= "Residues derived from human interleukin 2 (IL2)"
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                                25. .463
/note= "Human soluble CD39 protein"
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100.0%; Pred. No. 1.2e-230;
ive 0; Mismatches 0;
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98US-0107466P.
99US-0149010P.
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nes 438; Conservative
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1. .24 /label= Leader peptide /note= "Derived from human interleukin 2 (hIL2)" 24. .25

Location/Qualifiers

Synthetic

Peptide Key

"Cleavage site of leader sequence"

"Human soluble CD39 protein'

.464 /note= /note=

Protein

Cleavage-site

WO200023459-A1

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This is used for transient expression of soluble(sol)CD39 in recombinant cells for determining enzymatic activity and platelet inhibitory activity for each protein product. SolCD39 is used in the treatment of unstable angina, myocardial infarction, stroke, coronary artery disease or injury, atherosclerosis, peripheral vascular occlusion, preeclampsia, embolism, platelet-associated ischaemic disorder including lung ischaemia, coronary ischaemia and creebral ischaemia, thrombosic disorder including coronary artery thrombosis, exerbra artery thrombosis, intracardiac thrombosis, peripheral artery thrombosis, venous thrombosis, thrombosis, coagulopathy, deep venous thrombosis (DVT), pulmonary embolism (PE), transient ischaemic attack. Soluble CD39 is also useful for preventing thrombus formation or reformation, occlusion, recoclusion, stenosis or restenosis or stroke
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New soluble CD39 polypeptides having apyrase activity, useful for inhibiting angiogenesis and treating unstable angina, myocardial infarction, stroke, coronary artery disease or injury.

Claim 6; Page 111-112; 122pp; English.

Gimpel SD

Price VL,

Gayle RB,

Maliszewski CR,

WPI; 2000-339644/29.

(IMMV) IMMUNEX CORP.

98US-0104585P. 98US-0107466P. 99US-0149010P.

16-OCT-1998; 06-NOV-1998; 13-AUG-1999;

99WO-US022955

13-OCT-1999;

27-APR-2000

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The present sequence is the fusion protein construct, pILZITriml. This construct comprises of the leader peptide from human interleukin 2 (hILZ) and soluble CD39 (soltcher) region, having apprase activity. The two regions are joined by an intervening Ala residue. Soluble CD39 is constructed by removing the N. and C-terminal transmembrane domains. It cretains the capacity to metabolise ATP and ADP at relavant concentrations and the ability to block and reverse ADP-induced platelet activation and recruitment, including platelet aggregation. Soluble CD39 polypeptides or enseful for inhibiting anglogenesis. It is useful for the treatment of unstable angina, atroke, myocardial infarction, coronary artery disease or injury, embolism, atherosclerosis, peripheral vascular occlusion, coronary and cerebral ischaemia, thrombotic disorders including lung, coronary and cerebral actery thrombotic disorders including coronary, pereclampsia, platelet-associated ischaemic disorders including coronary, coronary and cerebral artery thrombosis, intracardiac and venous thrombosis, coagulopathy, deep venous thrombosis (DVT), pulmonary embolism (PE) and transient ischaemic attack. Soluble CD39 is also useful for preventing thrombus formation or reformation, occlusion, reocclusion, stenosis or restenosis of blood vessels or stroke
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; Pred. No. 1.2e-230;
0; Mismatches 0;
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Best Local Similarity 100.
Matches 438; Conservative
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146 180 206 240 266

Soluble CD39; solCD39; human; apyrase activity; platelet activation; unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; preclampsia; embolism; platelet-associated ischaemic disorder; thrombotic disorder; recorclusion; coagulopathy; deep venous thrombosis; DVT; pulmonary embolism; PE; thrombot formation; occlusion; restenosis; angiogenesis; antianginal; cerebroprotective; antiateriosclerotic; anticoagulant; cardiant; vasotropic; thrombolytic; inhibitor; interleukin 2; IL2. Human soluble CD39 fusion protein construct, pIL2LTrim1. (first entry) 17-AUG-2000

AAY70922;

sapiens Homo

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constructed by removing the human IL2 residues from solCD39
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAY70924 standard; protein; 473 AA
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100.0%;
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                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                               Best Local Similarity
Matches 438; Conserv
                                                                                                                                                                                  vessels or stroke
                                                                                                                                                                                                          Sequence 464 AA;
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                           RDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTSYC 326
                                                              PYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEEIK 360
                                                                                                                  TSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLNL 420
                                                                                                                                TSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLNL 446
                                                                                       PYSOCAFNGI FLPPLOGDFGAFSAFYFVMKFLNLTSEKVSOEKVTEMMKKFCAOPWEEIK 386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           present sequence is the protein encoded by Triml construct. pIL2Triml
                                                                                                                                                                                                                                                                                                                                                                           unstable angina; myocardial infarction; stroke; processy artery disease; atherosclerosis; peripheral vascular occlusion; preeclampsia; embolism; platelet-associated ischaemic disorder; lung ischaemia; thrombolytic; cerebral ischaemia; thrombosis; cornary artery thrombosis; cornary artery thrombosis; peripheral artery thrombosis; coagulopathy; deep venous thrombosis; peripheral artery thrombosis; coagulopathy; deep venous thrombosis; psripheral artery thrombosis; restenence areas; thrombus formation; occlusion; recoclusion; stenosis; restenosis; antianginal; cardiant; cerebroprotective; antiarteriosclerotic; vasotropic; anticoagulant; coronary ischaemia; vascular occlusion; pli2Triml variant.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Inhibiting platelet activation and recruitment, useful for treating a mammal suffering from unstable angina, myocardial infarction, stroke, coronary artery disease or injury, comprises administering soluble CD39
            RDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPPQQFEIQGIGNYQQCHQSILELFNTSYC
                                                                                                                                                                                                                                                                                                                                                                Soluble CD39; ADP-induced platelet activation; platelet aggregation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note= "Soluble portion of CD39"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Marcus AJ;
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                                                                                                                                                                                                                                                            AAY70899 standard; protein; 464 AA
                                                                                                                                                                      TNMIPAEQPLSTPLSHST 438
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98US-0107466P.
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RES FOUND INC.
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                                                                                                                                                                                                                                                                                                              (first entry)
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(CORR ) CORNELL
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Protein
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Synthetic.
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06-NOV-1998;
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fusion construct. Fusion of 12 amino acids from the N-terminus of mature human IL2 to the solCD39 coding region results in high levels of both syrpession and activity in the supernatants of transfected cells. SolCD39 is used in the treatment of unstable angina, myocardial infarction, stroke, coronary artery disease or injury, atherosclerosis, peripheral vascular occlusion, preeclampsia, embolism, platelet-associated ischaemic disorder including lung ischaemia, coronary ischaemia and cerebral ischaemia, a thrombosic disorder including coronary artery thrombosis, cerebral artery thrombosis, intracardiac thrombosis, peripheral artery thrombosis, thrombosis, coapulopathy, deep venous thrombosis, thrombosis, coapulopathy, deep venous shrombosis (PE), transient ischaemic attack. Soluble CD39 is also useful for preventing thrombus formation or restenosis of blood
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61 NEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSN 120
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PYSOCAFNGIFLPPLOGDFGAFSAFYFVMKFLNLTSEKVSOEKVTEMMKKFCAQPWEEIK 386
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121 YPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 147 YPPDFQGARIITGQEBGAYGWITINYLLGKFSQKTRWFSIVPXETNNQETFGALDLGGAS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; Score 2343; DB 3;
; Pred. No. 1.2e-230;
0; Mismatches 0;
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216 TQVTFVPQNQTIESPDNALQPRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNBIL 275
                                                                                                                                                 PYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEEIK 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Soluble CD39, ADP-induced platelet activation; platelet aggregation; unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; preeclampsia; embolism; platelet-associated ischaemia dischaemia ithrombolism; cerebral ischaemia; thrombolic disorder; lung ischaemia; thrombolic; cerebral ischaemia; thrombosis; cerebral artery thrombosis; intracardiac thrombosis; venous thrombosis; peripheral artery thrombosis; coagulopathy; deep venous thrombosis; DPT; PB; pulmonary embolism; transient ischaemic attack; thrombus formation; occlusion; stenosis; restenosis; antianginal; cardiant; cerebroprotective; antiarteriosclerotic; vasctropic; anticoagulant;
                                                                  RDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFE1QG1GNYQQCHQS1LELFNTSYC
                                                                                          RDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTSYC
                                                                                                                                                                           336 PYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEEIK
                                                                                                                                                                                                                                                             TSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLNL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            coronary ischaemia; vascular occlusion; pIL2Trim4 variant
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35. .473
/note= "Soluble portion of CD39"
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                                                                                                                                                                                                                                                                                                                        438
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98US-0107466P.
99US-0149010P.
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13-AUG-1999;
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Soluble CD39 (solCD39) protein region, having apyrase activity.

Soluble CD39 is constructed by removing the N- and C-terminal transmembrande domains. It retains the capacity to metabolise ATP and ADP at relevant concentrations and the ability to block and reverse ADP-

CC induced platelet activation and recruitment, including platelet aggregation. Soluble CD39 polypeptides are useful for inhibiting angiogenesis. It is useful for the treatment of unstable angina, stroke, myocardial infarction, coronary artery disease or injury, embolism, comparting platelet-associated ischaemia disorders including lung, coronary and cerebral ischaemia, thrombotic disorders including coronary, peripheral and cerebral artery thrombosis, intracardiac and venous thrombosis, intracardiac and venous thrombosis, capacing thrombosis, intracardiac and venous thrombosis, contacting cransient ischaemic attack. Soluble CD39 is also useful for preventing coronary are proposis or reformation, occlusion, reocclusion, stenosis or
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                                                                                                     1. .24
/label= Leader_peptide
/note= "Derived from human interleukin 2 (hIL2)"
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                                                                                                                                                                     26. .27
/note= "Cleavage site of leader sequence"
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99US-0149010P.
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Best Local Similarity 100.
Marches 438; Conservative
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                                                                                                       Peptide
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Inhibiting platelet activation and recruitment, useful for treating a mammal suffering from unstable angina, myocardial infarction, stroke, coronary artery disease or injury, comprises administering soluble CD39 polypeptides.
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The present sequence is the protein encoded by Trim4 construct. pIL2Trim4 variant was constructed by removing the human IL2 residues from solCD39 fusion construct. Fusion of IL2 amino acids from the Neterniums of mature human IL2 to the solCD39 coding region results in high levels of both expression and activity in the supernatants of transfected cells. SolCD39 is used in the treatment of unstable angina, myocardial infarction, cstroke, coronary artery disease or injury, atterosclerosis, peripheral vascular occlusion, precidampsia, embolism, platelet-associated ischaemic disorder including lung ischaemia, coronary ischaemia and cerebral ischaemia, a thrombotic disorder including coronary artery thrombosis, cerebral artery thrombosis, intracardiac thrombosis, peripheral artery thrombosis, venous thrombosis, intracardiac thrombosis, peripheral artery thrombosis (DVT), pulmonary embolism (PE), transient ischaemic attack. Soluble CD39 is also useful for preventing thrombosis of matching the preventing thrombosis of matching the preventing thrombosis of matching the preventing thrombosis of matching the preventing thrombosis of matching thrombosis of matching thrombosis of matching thrombosis of matching thrombosis of matching thrombosis of matching thrombosis of matching thrombosis of matching thrombosis of matching thrombosis of matching thrombosis of matching thrombosis of matching thrombosis of matching thrombosis of matching thrombosis of matching thrombosis of matching thrombosis of matching thrombosis of matching thrombosis of matching thrombosis of matching thrombosis of matching thrombosis of matching thrombosis of matching thrombosis of matching thrombosis of matching thrombosis of matching thrombosis of matching thrombosis of matching thrombosis of matching thrombosis of matching thrombosis of matching thrombosis of matching thrombosis of matching thrombosis of matching thrombosis of matching thrombosis of matching thrombosis of matching thrombosis of matching thrombosis of matching thrombosis of matching
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Pred. No. 1.3e-230;
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Best Local Similarity
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The present sequence is the fusion protein construct, pIL2LTrim3. This construct comprises of the leader peptide from human interleukin 2 (hIL2) and soluble CD39 (solUD39) protein region, having apprase activity.

CC Soluble CD39 is constructed by removing the N- and C-terminal constructations and the ability to metabolise ATP and ADP transmembrane domains. It retains the capacity to metabolise ATP and ADP at relevant concentrations and the ability to block and reverse ADP.

CC induced platelet activation and recruitment, including platelet aggregation. Soluble CD39 polypeptides are useful for inhibiting aggregation. Soluble CD39 polypeptides are useful for inhibiting aggregation. Soluble CD39 polypeptides are useful for inhibiting aggregation, pertipheral arcany disease or injury, embolism, and carebral archaemic disorders including long, coronary and cerebral associated ischaemic disorders including coronary, peripheral and cerebral artery thrombosis, intracardiac and venous thrombosis, capaulopathy, deep venous thrombosis, intracardiac and venous thrombosis, crassient ischaemic attack. Soluble CD39 is also useful for preventing thrombus formation or reformation, occlusion, reocclusion, stenosis or trestenosis of blood vessels or stroke
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antianginal; cerebroprotective; antiarteriosclerotic; anticoagulant; cardiant; vasotropic; thrombolytic; inhibitor; interleukin 2; IL2.
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                                                                                                                                    - Leader peptide
"Derived from human interleukin 2 (hIL2)"
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                                                                                                                                                                      24. .25
/note= "Cleavage site of leader sequence"
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                                                                                                                                                                                                                        /note= "Human soluble CD39 protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100.0%; Score 2343; DB 3;
100.0%; Pred. No. 1.3e-230;
tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gimpel SD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Price VL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 6; Page 113-114; 122pp; English
                                                                                                       Location/Qualifiers
                                                                                                                          1. .24
/label= Leader_
                                                                                                                                                                                                                                                                                                                                                        98US-0104585P.
98US-0107466P.
99US-0149010P.
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                                                                                                                                                                                                          36. 474
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                                                                                                                                                           /note=
                                                                                                                                                                                                                                                                                                                                                                                                                            (IMMV ) IMMUNEX CORP.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 474 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Maliszewski CR,
                                                                                                                                                                                                                                                           WO200023459-A1
                                                                                                                                                                             Cleavage-site
                                                                                                                                                                                                                                                                                                                              13-OCT-1999;
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                                                         sapiens
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                                                                           Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
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Best Local Similarity 100.
Matches 438; Conservative
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                                                                                                                                                                                                                 Sequence 474 AA;
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                                                                                          PYSOCAFNGIFLPPLOGDFGAFSAFYFVMKFLNLTSEKVSOEKVTEMMKKFCAQPWEEIK 360
                                                                                                                                                                                                                                                                                                                                         Soluble CD39; ADP-induced platelet activation; platelet aggregation; unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; precelampsia; embolism; platelet-associated ischaemic disorder; lung ischaemia; thrombolytic; cerebral ischaemia; thrombotic disorder; coronary artery thrombosis; peripheral artery thrombosis; intracardiac thrombosis; neronos thrombosis; peripheral artery thrombosis; coaquipathy; deep venous thrombosis; peripheral artery thrombosis; coaquipathy; deep venous thrombosis; peripheral artery thrombosis; restenosis; antianginal; cardiant; cerebroprotective; antiarteriosclerotic; vasotropic; anticoaquiant; coronary ischaemia; vascular occlusion; pll2Trim3 variant.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Inhibiting platelet activation and recruitment, useful for treating a mammal suffering from unstable angina, myocardial infarction, stroke, coronary artery disease or injury, comprises administering soluble CD39 polypeptides.
                   217 TQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEIL
                                                                                                        PYSQCAFNGIFLPPLQGDFGAFSAFYFVWKFLNLTSEKVSQEKVTEMMKKFCAQPWEEIK
       TQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEIL
                                                                     RDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTSYC
                                                                                                                                                   TSYAGVKEKYLSEYCFSGTYILSLILQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLNL
                                                 RDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPPQQFEIQGIGNYQQCHQSILELFNTSYC
                                                                                                                                      TSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLNL
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36. .474
/note= "Soluble portion of CD39"
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                                                                                                                                                                                                                                                                                                                         Protein encoded by Trim 3 construct.
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                                                                                                                                                                                             TIMIPAEQPLSTPLSHST 474
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RES FOUND INC.
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(CORR ) CORNELL
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Protein
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06-NOV-1998;
13-AUG-1999;
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The present sequence is the protein encoded by Trim3 construct. pIL2Trim3 variant was constructed by removing the human IL2 residues from solCD39 (Tusion construct. Pusion of 12 amino acids from the N-terminus of mature human IL2 to the solCD39 coding region results in high levels of both expression and activity in the supernatants of transfected cells. SolCD39 is used in the treatment of unstable angina, myocardial infarction, carocke, coronary artery disease or injury, atherosclerosis, peripheral vascular occlusion, preeclampsia, embolism, platelet-associated ischaemic disorder including lung ischaemia, coronary ischaemia and cerebral ischaemia, a thrombosis, intracardiac thrombosis, peripheral artery thrombosis, cerebral artery thrombosis, intracardiac thrombosis, peripheral artery thrombosis, thrombosis, cosqulopathy, deep venous thrombosis, thrombosis, cosqulopathy, deep venous thrombosis (DVT), pulnonary embolism (PS), transient ischaemic attack. Soluble CD39 is also useful for preventing thrombus formation or reformation, occlusion, reocclusion, stenosis or restenosis of blood
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           97 NEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSN 156
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   157 YPFDFQGARIITGQEEGAYGWITINYLLGKFSQXTRWFSIVPYETNNQETFGALDLGGAS
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100.0%; Pred. No. 1.3e-230;
iive 0; Mismatches 0;
Page 113-114; 118pp; English
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TOVTEVPONOTIESPDNALOFRLYGKDYNVYTHSFLCYGKDQALWOKLAKDIQVASNEIL
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(CORR ) CORNELL
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13-AUG-1999;
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coagulopathy; deep venous thrombosis; DVT; pulmonary embolism; PE; thrombus formation; occlusion; stenosis; restenosis; angiogenesis; antianginal; cerebroprotective; antiarteriosclerotic; anticoagulant; cardiant; vasotropic; thrombolytic.
                                                                                                                                                                                                                                                                                                                                                                                                                     New soluble CD39 polypeptides having apyrase activity, useful for inhibiting angiogenesis and treating unstable angina, myocardial infarction, stroke, coronary artery disease or injury.
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                                                                                                                                 protein N-terminal end"
                                                                                                                                                           of leader sequence"
                                                                                                                                                                                    'note= "Human soluble CD39 protein"
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                                                                                                                                                                                                                                                                                                                                                                       Gimpel SD;
                                                                                                                                                                                                                                                                                                                                                                       Price VL,
                                                                                                                      |. .37
|note= "Human CD39-L4
                                                                                                                                                           "Cleavage site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 6; Page 89-91; 122pp; English
                                                                                                         cocation/Qualifiers
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98US-0107466P.
99US-0149010P.
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                                                                                                                                                                        .476
                                                                                                                                                             /note=
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                                                                                                                                                                                                                                                                                                                                                                                                WPI; 2000-339644/29.
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                                                                                                                                                Cleavage-site
                                                                     Homo sapiens
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06-NOV-1998;
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                                                                                   Synthetic
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219 TQVTFVPQNQTIESPDNALQPRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNBIL 278
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                                                                                                                                                                                                                                                                            301 PYSOCAFNGIFLPPLOGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEEIK 360
                                                                                                                                                                                                                                                                                                                                               PYSÓCAFNGIFLPPLQGDFGAFSAFYFVMKFINLTSEKVSQEKVTEMMKKFCAQPWEEIK 398
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            soluble CD39; ADP-induced platelet activation; platelet aggregation; unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; preeclampsia; embolism; platelet-associated ischaemia disorder; lung ischaemia; thrombolytic; cerebral ischaemia; thrombotic disorder; coronary artery thrombosis; peripheral artery thrombosis; cosquippathy; deep venous thrombosis; peripheral artery thrombosis; cosquippathy; deep venous thrombosis; peripheral artery thrombosis; cosquippathy; deep venous thrombosis; ppipping, it is it is that is acted, thrombosis; purperpheral artery thrombosis; cosquippathy; deep venous thrombosis; pripping, purperpheral artery thrombosis; cosquippathy; deep venous thrombosis; purperpheral artery thrombosis; cosquippathy; deep venous thrombosis; purperpheral artery thrombosis; restenosis; antianginal; cardiant; cerebroprotective; anciarteriosclerotic; vasotropic; anticoagulant; coronary ischaemia; vascular occlusion.
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                                                                                                            RDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTSYC
                                                                                                                                                                                                                                                                                                                                                                                                                                   TSYAGVKEKYLSEYCFSGTYILSLILQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLNL
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    .37
    /note= "Derived from CD39-L4"

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          438
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RES FOUND INC.
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98US-0107466P.
99US-0149010P.
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unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; preeclampsia; embolism; platelet-associated ischaemic disorder; thrombotic disorder; reocclusion; coagulopathy; deep venous thrombosis; pulmonary embolism; PE; thrombus formation; occlusion; stenosis; restenosis; anglogenesis; antianginal; cerebroprotective; antiarteriosclerotic; anticoagulant; cardiant; vasotropic; thrombolytic; inhibitor; interleukin 2; IL2.

l. .24 |Tabel= Leader_peptide |Note= "Derived from human interleukin 2 (hIL2)" |S5. .36 |Tabel= Mature human_interleukin_2 |Note= "Derived from N-terminal end of human_IL2"

location/Qualifiers

sapiens.

Homo

Synthetic

Peptide

Protein

/note= "Human soluble CD39 protein"

37. .39 /note= "Linker"

40. .478

Region Protein WO200023459-A1

Gimpel SD;

Price VL,

Gayle RB,

Maliszewski CR, Gay WPI; 2000-339644/29.

N-PSDB; AAD00207

(IMMV) IMMUNEX CORP.

8XCCCCCCCCCCCCCCX8X41414X3X3X4343X3X4X6X3X44144414141444448888X

98US-0104585P. 98US-0107466P. 99US-0149010P.

99WO-US022955

13-OCT-1999; 16-OCT-1998; 06-NOV-1998; 13-AUG-1999;

27-APR-2000

Soluble CD39; solCD39; human; apyrase activity; platelet activation;

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PT coronary artery disease or injury, comprises administering soluble CD39
PT POlypeptides.

XX
XX
XX
XX
XX
Claim 6; Page 89-91; 118pp; English.

CC Py CD39-L4-1 construct.

CC Dy CD39-L4-1 construct.

CC Dy CD39-L4-1 construct.

CC Seluble CD39 in CHO (chinese hamster ovary) cells. Soluble CD39

CC Fetains the capacity of wildtype CD39 to metabolise ATP and ADP at

CC CA soluble CD39 in CHO (chinese hamster ovary) cells. Soluble CD39

CC Fetains the capacity of wildtype CD39 to metabolise ATP and ADP at

CC and reverse ADP-induced platelet activation and recruitment including

CC and reverse ADP-induced platelet activation and recruitment including

CC platelet aggregation. This is used in the treatment of unstable angina,

CC platelet aggregation. This is used in the treatment of unstable angina,

CC atheroscleropsis, peripheral vascular occlusion, preeclampsia, embolism,

CC attery thrombosis, cerebral ischaemia, thrombosis, incracardiac thrombosis,

CC cagulopathy, deep venous thrombosis, thrombosis,

CC cagulopathy, deep venous thrombosis, thrombosis,

CC cagulopathy, deep venous thrombosis, thrombosis,

CC cagulopathy, deep venous thrombosis, thrombosis,

CC transient ischaemic attack. Soluble CD39 is also useful for preventing

CC transient ischaemic attack. Soluble CD39 is also useful for preventing

CC restenosis of blood vessels or stroke

SQ Sequence 476 AA;
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                                                                                                                                                                                                                                                                                                 RDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTSYC 300
                                                                                                                                                                                                                                                                                                                                                         PYSOCAFNGIFLPPLOGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEEIK 360
                                                              9
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                                                                           39 QNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQKV
                                                                                                                                        NEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSN
                                                                                                                                                                                                159 YPPDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGAS
                                                                                                                                                                                                                                      TOVTFVPQNOTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEIL
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                                                            QNKALPENVKYGI VLDAGSSHTSLYI YKWPAEKENDTGVVHQVEECRVKGPGI SKFVQKV
                                                                                                                    NEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSN
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                                 0; Gaps
      Length 476;
                              Indels
   100.0%; Score 2343; DB 3;
100.0%; Pred. No. 1.3e-230;
ive 0; Mismatches 0;
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Query Match
Best Local Similarity 100.
Matches 438; Conservative
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Human soluble CD39 fusion protein construct, pIL2LsolCD39.

17-AUG-2000 (first entry)

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AAY70914;

AAY70914 standard; protein; 478 AA.

RESULT 14 AAY70914 16-OCT-1998; 06-NOV-1998;

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RDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTSYC 340
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RDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTSYC
                                                      NEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSN
                                                                      YPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGAS
                                                                                                                                                                  TQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEIL
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/note= "Linker"
40. .478
/note= "SolCD39 protein"
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/note= "huIL2 leader
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.ae "Mature human
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37. .39
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The present sequence is protein encoded by the coding region of pil2SolCD39, a fusion construct encoding sol(soluble)CD39 having apyrase pil2SolCD39, a fusion construct encoding sol(soluble)CD39 having apyrase activity. Fusion of 12 amino acids from the N-terminus of mature human CC clil2 to the solCD39 coding region results in high levels of both caxpression and activity in the supernatants of transfected cells. This is coronary artery disease or injury, atherosclerosis, peripheral vascular corolusion, preeclampsia, embolism, platelet-associated ischaemic disorder including lung ischaemia, coronary ischaemia and cerebral ischaemia, coronary ischaemia and cerebral ischaemia attrophromobosis, intracardiac thrombosis, peripheral artery thrombosis, thrombosis, coagulopathy, deep venous thrombosis, venous thrombosis, coagulopathy, deep venous thrombosis (DVT).

Thrombosis, preventing thrombosis ischaemic attack. Soluble CD39 is also useful for preventing thrombus formation or reformation, occlusion,
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

	Description	1-586-2 Sequence 2, Appli	Sequence 6,		G	5-147-29 Sequence 29, Apr		Sequence 3, A	Sequence 8,	Sequence 26,	Sequence 38,	5-147-2 Sequence 2, Appli		-1 Semience 1
	QI	US-09-374	US-09-835	US-09-83	US-09-83	US-09-83	US-09-83	US-09-835-147-3	US-09-835	US-09-83	US-10-05		US-09-374-586-1	
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Sequence 30, Application US/09835147

Patent No. US200200277A1

GENERAL INFORMATION:

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CURRENT PRICATION: Inhabitors of Platelet Activation and Recruitment

FILE REFERENCE: 2879-US

CURRENT APPLICATION NUMBER: US 60/104,585

FRIOR FILING DATE: 1998-11-06

PRIOR FILING DATE: 1998-11-06

PRIOR PILING DATE: 1998-11-06

PRIOR APPLICATION NUMBER: US 60/149,010

PRIOR APPLICATION NUMBER: PCT/US99/22955

PRIOR PILING DATE: 1999-10-13

NUMBER OF SEQ ID NOS: 31

SOFTWARE: PatentIN Ver. 2.0

SEQ ID NOS: 31

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; OTHER INFORMATION: construct of human CD39
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                                    241
                                                                                          RDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPPQQFEIQGIGNYQQCHQSILELFNTSYC 300
                                                                                                                              242 RDPCFHDGYKKVVNVSDLYKIPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTSYC 301
                                                                                                                                                                                                               PYSOCAFNGIFLPPLOGDFGAFSAFYFVMKFLNLTSEKVSOEKVTEMMKKFCAOPWEEIK 360
                                                                                                                                                                                                                                                      302 PYSQCAFNGIFLPPLQGDFGAFSAFYFVWKFLNLTSEKVSQEKVTEMMKKFCAQPWEEIK 361
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                                                                                                                                                                                                                                                                                                                                                          362 ISYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLNL 421
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APPLICANT: Maliszewski, Charles R.

APPLICANT: Gayle III, Richard B.

APPLICANT: Grayle III, Richard B.

APPLICANT: Grapel, Stewen D.

TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE REFERENCE: 2879-US

CURRENT APPLICATION NUMBER: US/09/835,147

CURRENT FILING DATE: 1998-10-16

PRIOR PLICATION NUMBER: US 60/104,585

PRIOR APPLICATION NUMBER: US 60/107,466

PRIOR PLING DATE: 1998-11-06

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PRIOR FILING DATE: 1999-08-13

PRIOR FILING DATE: 1999-08-13

PRIOR FILING DATE: 1999-10-13

NUMBER OF SEQ ID NOS: 31

SOFTWARE: Patentin Ver. 2.0

SEQ ID NO 6

LENGTH: 454
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; OTHER INFORMATION: construct of human CD39
US-09-835-147-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 100.0%; Score 2343; DB 9; Best Local Similarity 100.0%; Pred. No. 2.3e-209; Matches 438; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 6, Application US/09835147
Patent No. US20020002277A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                              TNMIPAEQPLSTPLSHST 438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    422 TNMIPAEQPLSTPLSHST 439
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	421 TRMIPAEQPLSTPLSHST 438 446 TRMIPAEQPLSTPLSHST 463 446 TRMIPAEQPLSTPLSHST 463 509-835-147-27 Sequence 27, Application US/09835147 Parent No. US2002002277A1 GAPPLICANT: Maliszewski, Charles R. APPLICANT: Price, Virginia L. APPLICANT: Price, Virginia L. APPLICANT: Gayle III, Richard B. TITLE OF INVENTION: Inhibitors of Platele FILE REFERENCE: 2879-085 CURRENT PLILICATION UNMBER: US/09/835,147 CURRENT FILING DATE: 1998-10-16 PRIOR FILING DATE: 1998-10-16 PRIOR FILING DATE: 1999-10-13 PRIOR FILING DATE: 1999-10-13 PRIOR FILING DATE: 1999-10-13 PRIOR FILING DATE: 1999-10-13 NUMBER OF SEQ'ID NOS: 31 SOFTWARE: PARENTIN UNMBER: US 60/149,010 PRIOR FILING DATE: 1999-10-13 NUMBER OF SEQ'ID NOS: 31 CSEQ ID NO 27 LENGTH: 464 TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: PRT TYPE: P	RE: INFORMATION: Description of Artificial INFORMATION: construct of human CD39 -147-27	Query Match Best Local Similarity 100.0%; Pred. N Matches 438; Conservative 0; Misma		RAREVIPRSQHQETPV 	GQEEGAYGWITINYLI GQEEGAYGWITINYLI	ESPDNALQFRLYGKDY	VNVSDLYKTPCTKRFE VNVSDLYKTPCTKRFE	PPLOGDFGAFSAFYFV

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RDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTSYC 300
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                                                           ; Facent NO. US20020002277A1
; GENERAL INFORMATION;
; APPLICANT: Maliszewski, Charles R.
APPLICANT: Bayle III, Richard B.
APPLICANT: Brice, Virginia L.
APPLICANT: Gimpel, Steven D.
TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment
FILE REFERENCE: 2879-US
CURRENT APPLICATION NUMBER: US/09/835,147
CURRENT APPLICATION NUMBER: US 60/104,585
PRIOR APPLICATION NUMBER: US 60/107,466
PRIOR FILING DATE: 1998-11-06
PRIOR FILING DATE: 1998-11-06
PRIOR PLING DATE: 1998-11-06
PRIOR PLING DATE: 1999-10-13
PRIOR PLING DATE: 1999-10-13
PRIOR PLING DATE: 1999-10-13
SPIOR APPLICATION NUMBER: PCT/US99/22955
PRIOR PLING DATE: 1999-10-13
SPIOR PLING DATE: 1999-10-13
SOFTWARE: PATENTING DATE: 1999-10-13
SOFTWARE: PATENTING DATE: 1999-10-13
SOFTWARE: PATENTING DATE: 1999-10-13
SEQ ID NOS: 31
SEQ ID NOS: 31
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                         Sequence 3, Application US/09835147 Patent No. US20020002277A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 8
US-09-835-147-8
Sequence 8, Application US/09835147
; Patent No. US20020002277A1
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APPLICANT: Maliszewski, Charles R.
APPLICANT: Gayle III, Richard B.
APPLICANT: Gayle III, Richard B.
APPLICANT: Gayle III, Richard B.
APPLICANT: Gampel, Steven D.
TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE REFERENCE: 2879-US
CURRENT FILING DATE: 2001-04-13
PRIOR PLICATION NUMBER: US 60/104,585
PRIOR FILING DATE: 1998-11-06
PRIOR FILING DATE: 1998-11-06
PRIOR PLICATION NUMBER: US 60/149,010
PRIOR PLICATION NUMBER: US 60/149,010
PRIOR FILING DATE: 1999-08-13
PRIOR FILING DATE: 1999-08-13
PRIOR FILING DATE: 1999-08-13
SUGTWARE: AS OF ONCS: 31
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 28
LENGTH: 474
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Best Local Similarity 100.0%; Pred. No. 2.4e-209;
Matches 438; Conservative 0; Mismatches 0;
                                                                                                                                  Sequence 28, Application US/09835147
Patent No. US20020002277A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TUMIPAEQPLSTPLSHST 438
TNMIPAEOPLSTPLSHST 473
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Sequence 38, Application US/10092063
Publication No. US20020173005A1
GENERAL INFORMATION:
APPLICANT: Ford, John
ITILE OF INVENTION: METHODS AND MATERIALS RELATING TO NOVEL CD39-LIKE POLYPEPTIDES
FILE REFERENCE: 28110/35908
CURRENT APPLICATION NUMBER: US/10/092,063
CURRENT PILING DATE: 2002-03-05
PRIOR APPLICATION NUMBER: 09/370,265
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                  Inhibitors of Platelet Activation and Recruitment
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OTHER INFORMATION: construct of human CD39
US-09-835-147-26
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APPLICANI: SIMPGET, C.C.

PILE REFERENCE: 2879-US
CURRENT APPLICATION NUMBER: US/09/835,147
CURRENT PILING DATE: 2001-04-13
RICH APPLICATION NUMBER: US 60/104,585
PRIOR PILING DATE: 1998-10-16
PRIOR PILING DATE: 1998-11-06
PRIOR PILING DATE: 1999-08-13
PRIOR PILING DATE: 1999-08-13
PRIOR PILING DATE: 1999-08-13
PRIOR PILING DATE: 1999-10-13
NUMBER OF SEQ ID NOS: 31
SOFTWARE: PARCHIN VET: 2.0
SSOFTWARE: PARCHIN VET: 2.0
SSOFTWARE: PARCHIN VET: 2.0
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ORGANISM: Artificial Seguence
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    APPLICANT: Maliszewski, Charles R.
APPLICANT: Maliszewski, Charles R.
APPLICANT: Gayle III, Richard B.
APPLICANT: Grapel, Virginia L.
APPLICANT: Gayle III, Richard B.
APPLICANT: Gayle III, Richard B.
TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE OF INVENTION: UNMBER: US/09/835,147
CURRENT FILING DATE: 2001-04-13
PRIOR PILING DATE: 1998-10-16
PRIOR PILING DATE: 1998-11-06
PRIOR PILING DATE: 1999-08-13
PRIOR PILING DATE: 1999-08-13
PRIOR FILING DATE: 1999-08-13
PRIOR FILING DATE: 1999-10-13
NUMBER OF SEQ ID NOS: 31
SOFTWARE: PatentIn Ver. 2.0
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US-09-835-147-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100.0%; Score 2343; DB 9;
flarity 100.0%; Pred. No. 2.4e-209;
Conservative 0; Mismatches 0;
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Patent No. US20020002277A1
GENERAL INFORMATION:
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ORGANISM: Artificial Sequence
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Best Local Simflarity
Matches 438; Conserv
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US-09-835-147-26
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PRIOR APPLICATION NUMBER: US &U/IL//12.
PRIOR FILING DATE: 1998-11-06
PRIOR APPLICATION NUMBER: US 60/149,010
PRIOR FILING DATE: 1999-08-13
PRIOR FILING DATE: 1999-10-13
NUMBER OF SEQ ID NOS: 31
SOFTWARE: PatentIN Ver. 2.0
; SEQ ID NO 2
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Best Local Similarity 100.
Matches 438; Conservative
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CORGANISM: Homo sapiens
US-09-835-147-2
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; TYPE: PRT
; ORGANISM: HOMO-SAPIEN
US-09-374-586-1
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US-09-374-586-1
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Sequence 2, Application US/09835147

Retent No. US20020002277A1

GENERAL INFORMATION:

APPLICANT: Maliszewski, Charles R.

APPLICANT: Gayle III, Richard B.

APPLICANT: Gimpel, Steven D.

IIITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE REFERENCE: 2879-US

CURRENT APPLICATION NUMBER: US/09/835,147

CURRENT FILING DATE: 2001-04-13

PRIOR FILING DATE: 1998-10-16
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    PRIOR FILING DATE: 2002-01-31
PRIOR APPLICATION NUMBER: PCT/US99/16180
PRIOR FILING DATE: 1999-07-16
PRIOR FILING DATE: 1999-07-09
PRIOR FILING DATE: 1999-07-09
PRIOR FILING DATE: 1999-03-19
PRIOR PLLING DATE: 1999-03-19
PRIOR PLLING DATE: 1999-03-04
PRIOR FILING DATE: 1999-03-04
PRIOR FILING DATE: 1998-07-04
PRIOR FILING DATE: 1998-07-04
PRIOR FILING DATE: 1998-07-16
NUMBER OF SEQ ID NOS: 39
SOFTWARE: PACENTIN OFF: 200
SEQ ID NO 38
LENGTH.E.
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US-10-092-063-38
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Patent No. US20020138958A1
GENERAL INFORMATION:
APPLICANT: PINSKy, David J.
TITLE OF INVENTION: CD39/ECTO-ADPASE AS A TREATMENT FOR THROMBOTIC AND TITLE OF INVENTION: CD39/ECTO-ADPASE AS A TREATMENT FOR THROMBOTIC AND FILE REFERENCE: 0575/59167;
CURRENT APPLICATION NUMBER: US/09/374,586
CURRENT FILING DATE: 1999-08-13
NUMBER OF SEQ ID NOS: 2
SOPTWARE: Patentin Ver. 2.1
                                                                                                        1 QNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQKV
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100.0%; Pred. No. 2.7e-209;
iive 0; Mismatches 0;
100.0%; Score 2343; DB 9;
100.0%; Pred. No. 2.7e-209;
iive 0; Mismatches 0;
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Matches 438; Conservative
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FOR TREATING CARDIOVASCULAR DISEASE
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99 NEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSN 158
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100.0%; Score 2343; DB 16;
Best Local Similarity 100.0%; Pred. No. 2.7e-209;
Matches 438; Conservative 0; Mismatches 0;
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APPLICANT: BESHER, Theresa A.
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR FILE REFERENCE: 3432-B
CURRENT APPLICATION NUMBER: US/10/646,308
CURRENT FILING DATE: 2003-08-21
PRIOR APPLICATION NUMBER: -to be assigned--
PRIOR PILING DATE: 2003-08-12
PRIOR FILING DATE: 2002-08-28
PRIOR FILING DATE: 2002-08-28
NUMBER OF SEQ ID NOS: 36
SOFTWARE: PATCHIN VERSION 3.2
SEQ ID NOS: 36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; Sequence 30, Application US/10646308; Publication No. US20040136992A1; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TIMIPAEOPLSTPLSHST 476
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ORGANISM: Homo sapiens
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Publication No. US20030040094A1

GENERAL INFORMATION:

APPLICANT: BEAUDOIN, Adrien R.

APPLICANT: BRAUDOIN, Adrien R.

APPLICANT: BRAUDOIN, Adrien R.

APPLICANT: BRAUDOIN, Adrien R.

APPLICANT: ROBSON, Simon

ITILE OF INVENTION: THEREOF AND PROCESS OF PRODUCING THEREOF BY RECOMBINANT

TITLE OF INVENTION: THEREOF AND PROCESS OF PRODUCING THEREOF BY RECOMBINANT

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                                                                                                              NEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSN
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2.7e-209;
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100.0%; Score 2343;
Best Local Similarity 100.0%; Pred. No. 2.7
Matches 438; Conservative 0; Mismatches
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US-09-781-796B-1
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242 DPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTSYCP 301
280 DPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTSYCP 339
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                                                                      66
PYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQDWEEIK 360
                     APPLICANT: Maliszewski, Charles R.
APPLICANT: Maliszewski, Charles R.
APPLICANT: Baice, Virginia L.
APPLICANT: Price, Virginia L.
APPLICANT: Gimpel, Steven D.
TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE REPERENCE: 2979-US
CURRENT APPLICATION NUMBER: US/09/835,147
CURRENT PILING DATE: 12001-04-13
PRIOR PILING DATE: 1998-10-16
PRIOR PILING DATE: 1998-11-06
PRIOR PILING DATE: 1998-11-06
PRIOR PILING DATE: 1999-08-13
PRIOR PILING DATE: 1999-08-13
PRIOR PILING DATE: 1999-08-13
PRIOR FILING DATE: 1999-08-13
PRIOR SELING DATE: 1999-10-13
PRIOR SELING DATE: 1999-10-13
PRIOR SELING DATE: 1999-10-13
PRIOR SELING DATE: 1999-10-13
PRIOR SEQ ID NOS: 2.0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                97.9%; Score 2294; DB 9; Length 476; 98.6%; Pred. No. 8.9e-205; tive 0; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OTHER INFORMATION: Description of Artificial Sequence: 1 OTHER INFORMATION: construct of human CD39 NAME/KEY: VARTANT LOCATION: (39) OTHER INFORMATION: Any amino acid, preferably Cys or Ser US-09-835-147-4
                                                                                                                                                                                                                                                                               ; Sequence 4, Application US/09835147; Patent No. US20020002277A1; GENERAL INFORMATION:
                                                                                                                                                                        421 TIMIPAEOPLSTPLSHST 438
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Best Local Similarity 98.6
Matches 431, Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQ ID NO 4
LENGTH: 476
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US-09-835-147-4
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Oy 302 YSQCAFNGIFLPPLQGDFGAFSAFYPVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEEIKT 361

Db 340 YSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEEIKT 399

Qy 352 SYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKLQGSDAGWTLGYMLNLT 421

Db 400 SYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKLQGSDAGWTLGYMLNLT 429

Qy 422 NMIPAEQPLSTPLSHT 438

Qy 422 NMIPAEQPLSTPLSHT 438

Db 460 NMIPAEQPLSTPLSHT 476

Search completed: March 7, 2005, 14:12:34
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7, 2005, 12:59:07; Search time 14.072 Seconds (without alignments) 3117.881 Million cell updates/sec
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Compugen Ltd.
GenCore version
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US-09-835-147A-3_COPY_21_476 2440 1 VSHRNQQTWFEGIFLSSTQN......NLTNMIPAEQPLSTPLSHST 456 283416 segs, 96216763 residues BLOSUM62 Gapop 10.0 , Gapext 0.5 Perfect score: Sequence: Scoring table: Searched:

Total number of hits satisfying chosen parameters: seq length: 0 seq length: 200000000 0B 0B Minimum | Maximum |

283416

summaries Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 su Database

PIR 79:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

	ription	lymphoid cell acti	ical p		hypothetical prote	probable nucleotid	probable nucleosid	hypothetical prote	7A19.33 protein -	hypothetical prote	probable guanosine	nucleoside triphos	apyrase (EC 3.6.1.	hypothetical prote		guanosine-diphosph	nucleoside-triphos	hypothetical prote	_	hypothetical prote		뎡	autolysin, N-acety	hypothetical prote	Д	hypothetical prote		hypothetical prote		.63
SUMMARIES	a	I56242	D86276	E86276		T40856	G84442				T39109		JC4616	T04439	T23508	A40732		B89985			-	. B43963	AB1411	D86247	B85725	B84532	T17414		T18979	T13288
	ength DB	510 2	483 2		630 2	572 2			•	557 2	•		454 2	1052 2	479 2	518 2	628 2	1509 2	369 2	716 2	•	1951 2							'n	2354 2
de	Query Match Length	96.2	20.7	19.2	18.6	17.0	16.7	16.5	16.3	15.7	15.6	15.3	13.9	•	13.5	•	6.8	4.3	4.2	4.2	4.1	4.1	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
	Score	2348	505	469.5	453	416	406.5	02	397.5	383.5	381.5	374	339	332	328.5	323.5	167	105.5	103	101.5	100	100	œ	æ	₩	98.5	æ	98	96	98
	Result No.	-	7	9	4	D.	9	7	80	6	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	56	27	28	29

LRDPCFHPGYKKVVNVSDLYKTPCTKRFEWTLPFQQFEIQGIGNYQQCHQSILELFNTSY 317

STOVTEVPONOTIESPDNALOFRLYGKDYNVYTHSFLCYGKDQALWOKLAKDIQVASNEI STQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEI

CPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEBI 377

8 8 8 8

g 8 d

CPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEEI

KTSYAGVKEKYLSEYCPSGTYILSLILLQGYHFTADSWEHIHPIGKIQGSDAGWTLGYMLN 437 KTSYAGVKEKYLSEYCFSGTYILSLLLQCYHFTADSWEHIHFIGKIQGSDAGWTLGYMLN 457

456

LINMIPAEQPLSTPLSHST 476 LTINMIPAEOPLSTPLSHST

NYPFDEQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGA 217

NYPPDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGA 197

138 158 198 218 258 278 318 338 378 398 438 458

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257 277 397

hypothetical prote chitin synthase (E probable histidine	myosin I beta - bu (R)-2-hydroxygluta genome polyprotein hypothetical prote	<pre>eerine/threonine k TPR-repeat contain spore germination Mg2+ transporter h</pre>	probable permease probable permease hypothetical prote lacticin 481/lacto
A96738 JC2314 T03774 A33369	151173 A72369 S16449 F89770	AG2391 G97031 B48583 G69859	G91228 F86075 S15962 T43110
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ALIGNMENTS

RESULT 1 156242 1ymphoid (C;Species C;Date: 0	RESULT 1 156242 lymphoid cell activation antigen - human C.Species: Homo sapiens (man) C.Jate: 0.5 Jul-1996 #sequence_revision 02-Jul-1996 #text_change 09-Jul-2004
R; Maliszer J. Immuno	R.Maliszewski, C.R.; Delespesse, G.J.; Schoenborn, M.A.; Armitage, R.J.; Fanslow, W.C.; J. Immunol. 153, 3574-3583, 1994
A;Title: A;Referen	A,Title: The CD39 lymphoid cell activation antigen. Molecular cloning and structural cha A,Reference number: 156242; MUID:95015846; PMID:7930580
A; Accessi A; Status:	A;Accession: 156242 b.McJeans preliminary; translated from GB/EMBL/DDBJ
A; Residue	A) Residues: 1-510 - RESS
A;Cross-r C;Superfa	A;Cross-references: UNIRKUT:449961; GB:573813; NLD:g765255; FIDN:AAB32152.1; FID:g765256 C;Superfamily: nucleoside triphosphatase chromatin-associated
Query M Best Lo Matches	Query Match Best Local Similarity 100.0%; Pred. No. 5.6e-183; Matches 439; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
ò	18 TONKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQK 77
qa	38 TONKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQK 97
ò	78 VNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGWELLRWESEELADRVLDVVERSLS 137
ą	98 VNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEBLADRVLDVVERSLS 157

61;

405;

Length Indels

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ansen, N.F.; Hughes, B.; Huizar, L.
Nature 408, 816-820, 2000
A,Authors: Hunter, J.L.; Jenkins, J.; Johnson-Hopson, C.; Khan, S.; Khaykin, E.; Kim, C., C.A.; Lii, J.H.; Li, Y.; Lin, X.; Liu, S.X.; Liu, Z.A.; Luros, J.S.; Maiti, R.; Marziali, Rizzo, M.; Rooney, T.; Rowley, D.; Sakano, H.
A,Authors: Salzberg, S.L.; Schwartz, J.R.; Shinn, P.; Southwick, A.M.; Sun, H.; Tallon, Il ker, M.; Wu, D.; Yu, G.; Fraser, C.M.; Vonter, J.C.; Davis, R.W.
A,Fitle: Sequence and analysis of chromosome 1 of the plant Arabidopsis.
A;Reference number: A86141; MUID:21016719; PMID:11130712
A;Accession: E86276
A;Accession: E86276
A;Accession: L405 <STO>
A;Residues: 1-405 <STO>
A;Residues: 1-405 <STO>
A;Goss-references: UNIPROT:Q9M9T7; GB:AE005172; NID:97262666; PIDN:AAF43924.1; GSPDB:GNUAP position: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            19.2%; Score 469.5; DB 2;
31.2%; Pred. No. 2.7e-30;
ive 65; Mismatches 145;
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A;Cross-references: SGD:S000807
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Best Local Similarity 31.29
Matches 123; Conservative
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Best Local Similarity
Matches 130; Conserva
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R; Dietrich, F.S.
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                                                                                                                                          hypothetical protein F7A19.34 [imported] - Arabidopsis thaliana
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Decies: Arabidopsis thaliana (mouse-ear cress)
C;Decies: Arabidopsis thaliana (mouse-ear cress)
C;Date: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004
C;Accession: D8629, A.; Ecker, J.R.; Palm, C.J.; Federspiel, N.A.; Kaul, S.; White, O.; Alonso, Chin, C.W.; Chung, M.K.; Conn, L.; Conway, A.B.; Conway, A.R.; Creasy, T.H.; Dewar, K.; ansen, N.F.; Hudges, B.; Huizar, L.
Nature 408, 816-820, 2000
A;Authors: Hunter, J.L.; Jenkins, J.; Johnson-Hopson, C.; Khan, S.; Khaykin, E.; Kim, C.C., Li, J.H., Li, Y.; Lin, X.; Liu, S.X.; Liu, Z.A.; Luros, J.S.; Maiti, R.; Marziali, Rizzo, M.; Rooney, T.; Rowley, D.; Sakano, T.; Shinn, P.; Southwick, A.M.; Sun, H.; Tallon, A;Authors: Salzberg, S.L.; Schwartz, J.R.; Shinn, P.; Southwick, A.M.; Sun, H.; Tallon, A;Tile: Sequence and analysis of chromosome 1 of the plant Arabidopsis.
A;Accession: D86276
A;Accession: D86276
A;Accession: D86276
A;Accession: D86276
A;Accession: D86276
A;Residues: 1-483 <STO>
A;Cross-references: UNIPROT:Q9X162; GB:AE005172; NID:g5080801; PIDN:AAD39311.1; G$PDB:GN
C;Genetics:
A;Map position: 1
C;Superfamily: nucleoside triphosphatase chromatin-associated
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C;Species: O2-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004
C;Accession: E86276
R;Theologis, A.; Ecker, J.R.; Palm, C.J.; Federspiel, N.A.; Kaul, S.; White, O.; Alonso, Chin, C.W.; Chung, M.K.; Conn, L.; Conway, A.B.; Conway, A.R.; Creasy, T.H.; Dewar, K.;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               93 IYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSL--SNYP 140
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A;Residues: 1.630 <DIE>
A;Cross-references: UNIPROT:P40009; EMBL:U18778; NID:g603592; PID:g603597; GSPDB:GN00005.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           submitted to the EMBL Data Library, December 1994
A. Description: The sequence of S. cerevistae cosmids 9537, 9581, 9495, 9867, and lambda A. Reference number: 850433
A. A. Recession: 850463
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                                                                                                                                                                                                                                                                                                                                                                                  240
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PGISKFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRV 128
                                                                                                         LDVVERSLSNYPFDFQG--ARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQ 186
                                                                                                                                           ETFGALDLGGASTOVTFVPQNQTIESPDNALQFRLYGK-DYNVYTHSFLCYGKDQA---L 242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ---RFEMTLPF 291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  350 INLTSEKVSQEKVTEMM---KKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQG 406
                                                      85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        hypothetical protein YER005w - yeast (Saccharomyces cerevisiae)
C;Species: Saccharomyces cerevisiae
C;Date: 28-May_1993 #sequence_revision 24-Feb-1995 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                        292 QOPEIQGIGNYQQCHQSILELF - NTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ---QVQAAGDFTKCRSATLAMLQEGKENCAYKHCSIGSTFTPNIQGSFLATENFFHTSKF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels 104;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 630,
                                                                                                                                                                                                                                                                                                                               243 WOKLAKDIQVASNE-ILRDPCFHPGYKKVVNVSDLYKTPCTK-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        18.6%; Score 453; DB 2; L ilarity 27.2%; Pred. No. 1.1e-28; Conservative 91; Mismatches 153;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            YHFTADSWEHIHFIGKI--QGSDAGWTLG-YMLN 437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LGVALDD-ERIKYASKAGKENIPLDWALGAFILN 386
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Db 224 NEAYRRYLGILIESENGKVGNTLSDPCSLRG	RESULT 6 G84442 probable nucleoside triphosphatase [imported] - Arabidopsis thaliana C;pecies: Arabidopsis thaliana (mouse-ear cress) C;pecies: Arabidopsis thaliana (mouse-ear cress) C;pacession: G84442 R;Lin, X:; Xaul, S:; Rounsley, S.D.; Shea, T.P.; Benito, M.I.; Town, C.D.; Fujii, C.Y.; R;Lin, X:; Xaul, S:; Rounsley, S.D.; Shea, M.; VanAken, S.E.; Umayam, L.; Tallon, L., Roo, H.; Moffat, K.S.; Cronin, L.A.; Shen, M.; VanAken, S.E.; Umayam, L.; Tallon, L., Buture 402, 761-768, 1999 A;Title: Sequence and analysis of chromosome 2 of the plant Arabidopsis thaliana. A;Title: Sequence and analysis of chromosome 2 of the plant Arabidopsis thaliana. A;Title: Sequence and analysis of Chromosome 2 of the plant Arabidopsis thaliana. A;Title: Sequence and analysis of Chromosome 2 of the plant Arabidopsis thaliana. A;Title: Sequence and analysis of Chromosome 2 of the plant Arabidopsis thaliana. A;Status: preliminary A;Nolecule type: DNA A;Status: preliminary A;Molecule type: DNA A;Status: Preferences: UNIPROT: O80612; GB: AE002093; NID: G3461821; PIDN: AAC32915.1; GSPDB: GN A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;G	Query Match 16.7%; Score 406.5; DB 2; Length 516; Best Local Similarity 27.5%; Pred. No. 5.1e-25; Matches 117; Conservative 68; Mismatches 187; Indels 53; Gaps 13; Qy 26 NVKXGIVLDAGSSHTSLYIYKWPARKENDTGVHQVEECRVK-GPGISKFVQKVNEIGIY 84 :::	Db 182 DEMASVISGSDEGLYAMVANFALGSLGGDPLKTTGITGASAQVT 229 Qy 203 FVPONQTIESPDNALQFRLYGCDYANVYTHSFLCYCKDQALW-QKLAKDIQVAS 254
Qy 26 NVRYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVK-GPGI 71 :: : : :::	QY 232 SFI.CYGKDQALWQKLAKDIQVASNEILRDPCFHPGYKKVVNVSDLYKT 279 ::	C;Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 09-Jul-2004 C;Accession: T40865 B;Ramsperger, U; Pohl, T.; Wood, V.; Rajandream, M.A.; Barrell, B.G. R;Ramsperger, U; Pohl, T.; Wood, V.; Rajandream, M.A.; Barrell, B.G. B;Deference number: 221952 A;Reference number: 221952 A;Reference number: 221952 A;Status: preliminary; translated from GB/EMBL/DDBJ A;Accession: T40856 A;Status: preliminary; translated from GB/EMBL/DDBJ A;Rosidues: 1-572 <ram> A;Residues: 1-572 <ram> A;Experimental source: strain 972h-; cosmid cllEl0 C;Genetics: A;Gene: SPDB:SPCCIIE10.05c A;Map position: 3</ram></ram>	Query Match 17.0%; Score 416; DB 2; Length 572; Best Local Similarity 27.3%; Pred. No. 16-25; 16-25; Matches 131; Conservative 69; Mismatches 156; Indels 124; Gaps 19; Qy 28 KYGIVLDAGSSHTSLYIKWPAEKEN

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A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-557 <MIL>
A;Cross-references: EMBL:U39652; NID:g1049390; PID:g1049394; PIDN:AAA80403.1; CESP:R07E4
A;Experimental source: strain Bristol N2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              201 MLGLLLIMRSVRLEVTFV---STELVPSEFSRTLAYGNVSYNLYSHSFLDFGQD-AAQEK 256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVE 133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             246 LAKDI-QVASNE----ILRDPCFHPGYKKVVNV-SDLYKTPCTK-RFEMTLPFQQFEIQG 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  299 IGNYQQCHQSILELF--NTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEK 356
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Cispecies: Cenorhabditis elegans
Cipate: 20-Sep-1999 #sequence_revision 20-Sep-1999 #text_change 20-Sep-1999
CiAccession: T16696
Riwiller, N.
submitted to the EMBL Data Library, October 1995
A; Description: The sequence of C. elegans cosmid R07E4.
A; Reference number: Z18561
A; Accession: T16696
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LSSTQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVK-GPGISK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       193 DLG-----GASTQVTFVPQNQTIESPDNALQFRLYGK-DYNVYTHSFLCYGKDQALWQK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          357 VSQEKVTEMM --- KKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADS
                                                                                                                                                                                                                                                                                                                                              Gaps
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15.7%; Score 383.5; DB 2; Length 557;
Best Local Similarity 25.9%; Pred. No. 4.2e-23;
Matches 123; Conservative 85; Mismatches 194; Indels 73
                                                                                                                                                                                                                                                                                                    508;
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A;Gene: CESP:R07E4.4
A;Introns: 39/1; 67/1; 145/2; 192/1; 244/3; 317/3; 451/3; 488/2
                                                                                                                                                                                                                                                                                                    Length
                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                Query Match 16.3%; Score 397.5; DB 2; Best Local Similarity 28.2%; Pred. No. 2.7e-24; Matches 126; Conservative 74; Mismatches 174;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   hypothetical protein R07E4.4 - Caenorhabditis elegans
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C86276
C349.33 protein - Arabidopsis thaliana (mouse-ear cress)
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004
C;Accession: C86276
R;Theologis, A.; Ecker, J.R.; Palm, C.J.; Federspiel, N.A.; Kaul, S.; White, O.; Alonso, Chin, C.W.; Chung, M.K.; Conn, L.; Conway, A.B.; Conway, A.R.; Creasy, T.H.; Dewar, K.; ansen, N.F.; Hughes, B.; Huizar, L.
Nature 408, 816-820, 2000
A;Authors: Hunter, J.L.; Jenkins, J.; Johnson-Hopson, C.; Khan, S.; Khaykin, E.; Kim, C.C., A.; Li, J.H.; Li, Y.; Liu, X.; Liu, S.X.; Liu, Z.A.; Luros, J.S.; Maiti, R.; Marziali, Rizzo, M.; Rooney, T.; Rowley, D.; Sakano, H.
                                                                         Ay 1447

hypothetical protein C33H5.14 - Caenorhabditis elegans
C; Species: Caenorhabditis elegans
C; Date: 29-Oct-1999 #sequence_revision 29-Oct-1999 #text_change 09-Jul-2004
C; Accession: T34147
R; Bradshaw, H.; Stellyes, L.
submitted to the EMBL Data Library, November 1995
A; Description: The sequence of C. elegans cosmid C33H5.
A; Reference number: Z21482
A; Reference number: Z21482
A; Reference number: Z21482
A; Reference number: Z21482
A; Reference number: Z21482
A; Reference number: Z21482
A; Cossioner L485 - SBRA-
A; Corosioner Experimental source: strain Bristol N2
C; Genetics:
A; Gene: CESP:C33H5.14
A; Introns: 22/1; 83/1; 120/2; 167/1; 269/3; 399/3
C; Superfamily: nucleoside triphosphatase chromatin-associated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         142 SDSNIRIIDGAWEGIYSWIAVNYILGRFDKE------NDSKVGMIDMGGASVQI 189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            82 VEYLTPLLRFAEEHIPYEQLGETDLLIFATAGMRLLPEAQKDAIIKNLQNGLKSVTALRV 141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     202 TEVPONOTIESPD--NALQFRLYGKD-----YNVYTHSFLCYGKDOALWQKLAKDIQVA 253
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELF 313
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    314 NTS---YCPYSQCAFNGIFLPPLQ---GDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMK 367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KFCAQPWEEI-----KTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHI-HFIG 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          82 GIYLIDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSNYPF 141
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              22 NIKYGVICDAGSSGTRLFVYTLKPLSGGLTNIDTLIHESEPVVKKVTPGLSSFGDKPEQV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   26 NVKYGIVLDAGSSHTSLYIYKWPAEKENDTGV----VHQVEECRVK-GPGISKFVQKVNEI
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           16.5%; Score 402.5; DB 2; Length 485; 26.7%; Pred. No. 9.9e-25; ive 69; Mismatches 187; Indels 63.
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Matches 116, Conservative
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	RESULT 11 \$48859 nucleoside triphosphatase precursor, chromatin-associated - garden pea C;Species: Pisum sativum (garden pea) C;Becies: Disum sativum (garden pea) C;Becies: Disum sativum (garden pea) C;Becies: 13-Jan-1995 #sequence_revision 13-Jan-1995 #text_change 09-Jul-2004 C;Accession: S65147; S48859 R;Hsieh, H.L.; Tong, C.G.; Thomas, C.; Roux, S.J. Plant Mol. Biol. 30, 135-147, 1996 A;Title: Light-modulated abundance of an mRNA encoding a calmodulin-regulated, chromatin A;Reference number: S65141; MUID:96197404; PMID:8616230 A;Accession: S65147 A;Molecule type: mRNA A;Residues: 1-455 cHS2> A;Coss -references: UNIPROT:P52914; EMBL:Z32743; NID:g563611; PIDN:CAA83655.1; PID:g5636 C;Superfamily: nucleoside triphosphatase chromatin-associated C;Keywords: nucleus	15.3%; Score 374; DB 2; Length 455; 18st Local Similarity 25.6%; Pred. No. 1.9e-22; 18st Local Similarity 25.6%; Pred. No. 1.9e-22; 29 YGIVLDAGSSHTSLXIXYMPAEKENDTGVVHQVEECRYKGPGISKFVQKVNE 29 YGIVLDAGSSHTSLXIXYMPAEKENDTGVHQVEECRYKGPGISKFVQKVNE 20 YGIVLDAGSSHTSLXIXYMPAEKENDTGVHQVEECRYKGPGISKFVQKVNE 21	GNYQQCHOS : : LTGEK WVDASTPNF GYHPTADSW GFGLDPL
Qy 29 YGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVK-GPGISKFVOKVNEIGI 83 : : : : : : :	QY 244 QKLAKDIQVASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIG 300 1	RESULT 10 T39109 probable guanosine-diphosphatase - fission yeast (Schizosaccharomyces pombe) c;Species: Schizosaccharomyces pombe c;Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 09-Jul-2004 C;Accession: T39109 C;Bate: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 09-Jul-2004 C;Accession: T39109 A;Reference number: 221828 A;Accession: T39109 A;Status: preliminary; translated from GB/EMBL/DDBJ A;Accession: T39109 A;Status: Dreliminary; translated from GB/EMBL/DDBJ A;Accession: T39109 A;Status: DAA A;Residues: 1-556 cBAR> A;Residues: 1-556 cBAR> A;Cross-references: UNIPROT:Q9UT35; EMBL:AL121741; PIDN:CAB57338.1; GSPDB:GN00066; SPDB:A;Experimental source: strain 972h-; cosmid c824 C;Genetics: A;Gene: SPDB:SPAC824.08 A;Map position: 1	Query Match 15.6%; Score 381.5; DB 2; Length 556; Best Local Similarity 27.1%; Pred. No. 6.1e-23; Additional conservative 71; Mismatches 181; Indels 73; Gaps 17; Qy 28 KYGIVLDAGSSHTSLYIKWPARKENDTGVVHQVEECRVKGPGISKFVQKVNEIGIYL 85 :: :

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hypothetical protein T18B16.150
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Best Local Similarity
Matches 104; Conserva
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apyrase (EC 3.6.1.5) precursor - potato
Nalterance names adealyptrophosphatases; ATP-diphosphohydrolase
Cispecies: Solanum tubercoum (potato)
Cispecies: Solanum tubercoum (potato)
Cispecies: Solanum tubercoum (potato)
Cispecies: Julyana 1966
Cispecies: Solanum tubercoum (potato)
Cispecies: Solanum tubercoum (potato)
Cispecies: Solanum tubercoum (potato)
Cispecies: Julyana 104616; Medioti, G.
RiHanda, M.; Guidotti, G.
RiHanda, M.; Guidotti, G.
RiHanda, M.; Guidotti, G.
RiHanda, M.; Guidotti, G.
RiHanda, M.; Guidotti, G.
RiHanda, M.; Guidotti, G.
RiHanda, M.; Guidotti, G.
RiHanda, M.; Guidotti, G.
RiHanda, M.; Guidotti, G.
RiHanda, M.; Guidotti, G.
RiHanda, M.; Guidotti, G.
Richie: Purlification and cloning of a soluble ATP-diphosphohydrolase (Apyrase) from pot
A; References: UNIPROT: P80595; GB: U58597; NID: G1381632; PIDN: ABB02720.1; PID: G13816
A; Residues: 15-95; 96-131; 112-160; 236-253; 332-345 < HA2>
A; Residues: 15-95; 96-131; 112-160; 236-253; 332-345 < HA2>
A; Residues: 15-95; 96-131; 112-160; 236-253; 332-345 < HA2>
A; Residues: 15-95; 96-131; 112-160; 236-253; 332-345 < HA2>
A; Residues: 15-95; 96-131; 112-160; 236-253; 332-345 < HA2>
A; Residues: 15-95; 96-131; 112-160; 236-253; 332-345 < HA2>
A; Residues: 15-95; 96-131; 112-160; 236-253; 332-345 < HA2>
A; Residues: 15-95; 96-131; 112-160; 236-253; 332-345 < HA2>
A; Residues: 15-95; 96-131; 112-160; 236-253; 332-345 < HA2>
A; Residues: 15-95; 96-131; 112-160; 236-253; 332-345 < HA2>
A; Residues: 15-95; 96-131; 112-160; 236-253; 332-345 < HA2>
A; Residues: 15-95; 96-131; 112-160; 236-233; 332-345 < HA2>
A; Residues: 15-95; 96-131; 112-160; 96-130; 96-130; 96-130; 96-130; 96-130; 96-130; 96-130; 96-130; 96-130; 96-130; 96-130; 96-130; 96-130; 96-130; 96-130; 96-130; 96-130; 96-130; 96-130; 96-130; 96-130; 96-130; 96-130; 96-130; 96-130; 96-130; 96-130; 96-130; 96-130; 96-130; 96-130; 96-130; 96-130; 96-130; 96-130; 96-130; 96-130; 96-130; 96-130; 96-130; 96-130; 96-130; 96-130; 96-130; 96-130; 96-130; 96-130; 96-130; 96-130; 96-130; 96-130; 96-130; 96
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GKDQALWQKLAKDIQVASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEI 296
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24.8%; Pred. No. 1.3e-19;
ive 81; Mismatches 190; Indels
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A;Cross-references: UNIPROT:09XU84; EMBL:Z83113; PIDN:CAB05544.1; GSPDB:GN00023; CESP:K0!
A;Experimental source: clone K08H10
                                                                                        S.; Borkova, D.; Ansorge, W.; Bancroft, I.; Mewes, H.W Database, April 1998
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CiDate: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 09-Jul-2004
CiAccession: T21508
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 30-Apr-1999 #sequence_revision 30-Apr-1999 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      738 DRSVVHLLKKLPNVNKSDLIEGKLEMKHPCLNSGYN-----GQYICSQCASSVQGGKKGK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PGISKFVQKVNEIGIYLTDCMERAREVIPRSOHQETPVYLGATAGMRLLR-MESEELADR
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      64;
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A;Introns: 36/3; 83/3; 189/1; 300/2; 412/3
C;Superfamily: nucleoside triphosphatase chromatin-associated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                C;Accession: T04439
R;Bevan, M.; Benes, V.; Rechmann, S.; Borkova, D.; Ansorge, submitted to the Protein Sequence Database, April 1998
A;Reference number: 215359
A;Accession: T04439
A;Molecule type: DNA
A;Residues: 1-1052 <-BEV>
A;Cross-references: UNIPROT: O49676; EMBL:AL021687
A;Experimental source: cultivar Columbia; BAC clone T18B16
                                                                                                                                                                                                                                                                                                                    A; Map position: 4
A; Introns: 79/3; 118/3; 217/1; 295/3; 396/3; 531/2; 815/3
A; Note: T18B16.150
                                                                                                                                                                                                                                                                                                                                                                                                                                   13.6%; Score 332; DB 2; Lv 26.9%; Pred. No. 1.7e-18; ive 70; Mismatches 149;
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- Arabidopsis thaliana
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A;Molecule type: DNA
A;Residues: 1-479 <WIL>
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R;Gardner, A.
submitted to the EMBL Data Library, November 1996
A;Reference number: Z19750
A;Accession: T23508
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           239 PTAAVFDLGGGSTOIVFEPTFPINEKMVDGEHKFDLKFGDENYTLYOFSHLGYGLKEGRN 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         238 -KDQALWQKLAKDIQVASNE----ILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPF 291
                                           A Description: hydrolase criphosphatase chromatin-associated C;Superfamily: nucleoside triphosphatase chromatin-associated C;Keywords: alycoprotein; Golgi apparatus; hydrolase; transmembrane protein F;10-24/Domain: transmembrane #status predicted <TMM>F;10-24/Domain: transmembrane #status predicted <TMM>F;11,280,335/Binding site: carbohydrate (Asn) (covalent) #status predicted
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Best Local Similarity
Matches 122; Conserv
  A; Map position: 5L
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                                                                  29 YGIVLDAGSSHTSLYIYKW---PAEKENDTGVVHQVEE---CRVKGPGISKFVQKVNEIG 82
                                                                                         Gaps
                         65;
27.0%; Pred. No. 1e-18;
ive 71; Mismatches 191; Indels
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Local
Best Loc
Matches
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guanosine-diphosphatase (EC 3.6.1.42) - yeast (Saccharomyces cerevisiae)
N;Alternate names: protein YEL042w
N;Alternate names: protein YEL042w
C;Species: Saccharomyces cerevisiae
C;Species: Saccharomyces cerevisiae
C;Date: 21-8pp-1993 #sequence revision 18-Nov-1994 #text_change 09-Jul-2004
C;Accession: A40732; B40732; S30837; S50502
B;Abeijon, C; Yanagiaewa, K; Mandon, B.C.; Hausler, A.; Moremen, K.; Hirschberg, C.B.; J. Cell Biol. 122, 307-323, 1993
A;Title: Guanosine diphosphatase is required for protein and sphingolipid glycosylation
A;Reference number: A40732; MUID:99308137; PMID:8991537 A; Molecule type: DNA A; Residues: 1-518 <ABE> A; Accession: A40732

Bubmitted to the EMBL Data Library, December 1994
A;Description: The sequence of S. cerevisiae cosmids 8199, 8334, and 9871.
A;Reference number: S50491
A;Reference number: S50402
A;Reference 150502
A;Residues: 1-518 <DIE>
A;Residues: 1-518 <DIE>
A;Cross-references: EMBL:U18779; NID:g603625; PIDN:AAB65000.1; PID:g603637; MIPS:YEL042v
A;Genetics: A;Genetics: SGD:S0000768; MIPS:YEL042w A;Cross-references: UNIPROT:P32621; EMBL:L19560; NID:g349392; PIDN:AAA34656.1; PID:g3493 A;Note: seguence extracted from NCBI backbone (NCBIN:134708, NCBIP:134711) A;Accession: B40732 A;Molecule type: protein
A;Residues: 125-144;338-257;276-281;366-374;389-412 <AB2>
R;Mulligan, J.T.; Dietrich, F.S.; Hennessey, K.M.; Sehl, P.; Komp, C.; Wei, Y.; Taylor, submitted to the EMBL Data Library, February 1993
A;Reference number: S30812 A;Cross-references: GB:U18779; EMBL:L10830; NID:g603625; PIDN:AAB65000.1; PID:g603637 R;Dietrich, F.S. submitted to the EMBL Data Library, December 1994 A; Accession: S30837 A; Molecule type: DNA A; Residues: 1-518 <MUL>

292 QQFEIQGIG----NYQQCHQSILELFN-TSYCPYSQCAFNGIFLPPL-----QGDFGAF 340 406 SAFYFVMKFLNLTSEKVSQEKVTEMMKKPC--AQPWEBIKTSYAGVKEKYLSE--YCFSG 396 407 SYPYDRTRPLGMPLSFTLNE-LNDLARIVCKGEBTWNSVFSGIAGSLDBLESDSHFCLDL 465 TYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLNL 438 SFQVSLLHTGYDIPLQ--RELRTGKKIANKEIGWCLGASLPL 505 7, 2005, 13:24:56 Search completed: March Job time : 16.072 secs 341 397 466 8 용 δ

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Gaps

73;

Indels

13.3%; Score 323.5; DB 2; 26.4%; Pred. No. 2.9e-18; ive 73; Mismatches 194;

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GenCore version 5.1.6
(c) 1993 - 2005 Compugen Ltd.
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Q7YTA4 O8K0L2	Q8UVX9 Q9XI62	Q6NQA8 Q94AP8	Q8H1D8 Q6Z543	O6FRC2 O8CCV2	Q94EZ2	Q9M9T7	Q6DH30 080612
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3 2	34 35	36 37	3 9 9	40	42	43	4.4

ALIGNMENTS

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MEDLINE-99332082; PubMed=10405171; DOI=10.1016/S0014-5793(99)00751-6; Matsumoto M., Sakurai Y., Kokubo T., Yagi H., Makita K., Matsui T., Titeani K., Pujimura Y., Narita N.; "The cDNA cloning of human placental ecto-ATP diphosphohydrolases I and II.";
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Maligzewski C.R., Delespesse G.U.T., Schoenborn M.A., Armitage R.J., Panslow W.C., Nakajima T., Baker E., Sutherland G.R., Poindexter K., Birks C., Alpert A., Friend D., Gimpel S.D., Gayle R.B. III; "The CD39 lymphoid cell activation antigen. Molecular cloning and structural characterization."; J. Immunol. 153:3574-3583(1994).
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TISSUE=Placenta;
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               P49951; DOUGO9; OSTAGO, Created)
01-OCT-1996 (Rel. 34, Created)
01-OCT-1996 (Rel. 34, Last sequence update)
25-OCT-2004 (Rel. 35, Last annotation update)
25-OCT-2004 (Rel. 35, Last annotation update)
CCT-2004 (Rel. 36, Last annotation update)
(NTPDasel) (Ecto-ATP diphosphohydrolase 1 (EC 3.6.1.5)
(NTPDasel) (Ecto-ATP diphosphohydrolase) (Lymphoid cell activation artigen) (Ecto-apyrase) (CD39 antigen).
Name=ENTPD1; Synonyms=CD39;
Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=97149443; PLDMed-8996251;
Robson S.C., Kaczmarek E., Siegel J.B., Candinas D., Koziak K.,
Millan M., Hancock W.W., Bach F.H.;
"Loss of ATP diphosphohydrolase activity with endothelial cell
activation.";
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510 AA
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SEQUENCE FROM N.A. (ISOFORM VASCULAR).
MEDLINE=95015846; PubMed=7930580;
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TISSUE=Umbilical vein;
PRT;
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Exp. Med. 185:153-163(1997).
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STANDARD;
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Name=Placental I;

Isodd=P49961-2; Sequence=VSP_003607;

Isold=P49961-3; Sequence=VSP_003607, VSP_003608, VSP_003609;

Isold=P49961-3; Sequence=VSP_003607, VSP_003608, VSP_003609;

ISSUE SPECIFICITY: Expressed primarily on activated lymphoid cells. Also expressed in endothelial tissues. The vascular isoform and the placental isoform II are present in both placenta and umbilical vein, whereas placental isoform I is present in placenta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Koziak K., Kaczmarek E., Kittel A., Sevigny J., Blusztajn J.K.,
Schulte Am Esch J. II, Imai M., Guckelberger O., Goepfert C., Qawi I.,
                     Makita K., Shimoyama T., Sakurai Y., Yagi H., Matsumoto M., Narita N. Sakamoto Y., Saito S., Ikeda Y., Suzuki M., Titani K., Fujimura Y.; "Placental ecto-ATP diphosphohydrolase: its structural feature distinct from CD39, localization and inhibition on shear-induced platelat aggregation."; Int. J. Hematol. 68:297-310(1998).
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MISCELLANEOUS: Optimal pH is 7.0-7.5 with ATP as substrate and 7.5-8.0 with ADP.

SIMILARITY: Belongs to the GDA1 / CD39 NTPase family.

DATABASE: NAME=PROW; NOTE=CD guide CD39 entry;

WWW="http://www.ncbi.nlm.nih.gov/prow/cd/cd39.htm".
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Palmitoylation targets CD39/endothelial ATP diphosphohydrolase to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CHARACTERIZATION.
MEDLINE=96215267; PubMed=8626624; DOI=10.1074/jbc.271.17.10391;
Mang T.F., Guidotti G.;
"CD39 is an ecto-(Ca2+,Mg2+)-apyrase.";
J. Biol. Chem. 271:9898-9901(1996).
                                                                                                                                                                                                                                                                                                    MEDLINE=97115858; PubMed=8955160; DOI=10.1074/jbc.271.51.33116; Kaczmarek E., Koziak K., Sevigny J., Siegel J.B., Anrather J., Beaudoin A.R., Bach F.H., Robson S.C.; "Identification and characterization of CD39/vascular ATP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PALMITOYLATION.
MEDLINE=20102721; PubMed=10636909; DOI=10.1074/jbc.275.3.2057;
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EMBL, AJ133134, CAB41886.1; --
EMBL, AJ133134, CAB41887.1; --
PIR, ISCA42, ISCA42.
Genew, HGNC.3363, ENTPD1.
MIM, 601752: --
MEDLINE=99062444; PubMed=9846014;
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N-linked (GlcNAc. . .) (Potential).
N-linked (GlcNAc. . .) (Potential).
N-linked (GlcNAc. . .) (Potential).
I and isoform Placental II).
FTIGH-SP_003607.
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PFTSAPPAPTSCCFLFQIQ (in isoform Placental
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GO; GO:0005887; C:integral to plasma membrane; TAS.
GO; GO:0007596; P:blood coagulation; TAS.
InterPro; IPR000407; GDA1_CD39_NTPase.
Pfam; PF01150; GDA1_CD39_NTPASE.
PROSITE; PS01289; GDA1_CD39_NTPASE; 1.
Alternative splicing; Antigen; Calcium; Direct protein sequencing; Glycoprotein; Hydrolase; Lipoprotein; Magnesium; Palmitate;
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Missing (In isoform Placental II)
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W, BAD87D2499649159 CRC64;
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Extracellular (Potential)
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N-linked (GlcNAc. . ) (F
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R MGD; MGI:102805; Entpd1.

R GO; GO:0005605; C:basal lamina; IDA.

DR GO; GO:0004050; F:apyrase activity; IDA.

DR GO; GO:0007186; P:G-protein coupled receptor protein signalin. . .; IDA.

DR GO; GO:003181; P:platelet activation; IDA.

DR GO; GO:0009181; P:platelet activation; IDA.

DR GO; GO:0009181; P:platelet activation; IDA.

DR GO; GO:0009181; P:platelet activation; IDA.

DR GO; GO:0009181; P:platelet activation; IDA.

DR GO; GO:0009181; P:platelet activation; IDA.

DR GO; GO:0009181; P:platelet activation; IDA.

DR GO; GO:0009181; P:platelet activation; IDA.

DR GO; GO:0009181; P:platelet activation; IDA.

Tanssmembrane.

Cytoplasmic (Potential).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ecto-apyrase.";
(ytogenet, Cell Genet, 81:287-289(1998).

('tyogenet, Cell Genet, 81:287-289(1998).

-!- FUNCTION: In the nervous system, could hydrolyze ATP and other nucleotides to requiste purinergic neurotransmission. Could also be implicated in the prevention of platelet aggregation.

-!- CATALTIC ACTIVITY: ATP + 2 H(2)0 = AMP + 2 phosphate.

-!- COPACTOR: Requires calcium and magnesium (By similarity).

-!- COPACTOR: Requires calcium: and magnesium (By similarity).

-!- SUBUNIT: Homodimer; disulfide-linked (By similarity).

-!- SUBCELULIAR LOCATION: Integral membrane protein (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                        MEDIANE=95015846; PubMed=7930580; Maliazewski C.R., Delespesse G.J.T., Schoenborn M.A., Armitage R.J., Fanslow W.C., Nakajima T., Baker E., Sutherland G.R., Poindexter K., Blirks C., Alpert A., Friend D., Gimpel S.D., Gayle R.B. III; "The CD39 lymphoid cell activation antigen. Molecular cloning and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=98399871; PubMed=9730622; Scheenborn M.A., Jenkins N.A., Copeland N.G., Gilbert D.J., Scheenborn M.A., Jenkins N.A., Copeland N.G., Gilbert D.J., Gayle R.B. III, Maliazewski C.R., "Gene structure and chromosome location of mouse Cd39 coding for an
                                             01-NOV-1997 (Rel. 35, Created)
01-NOV-1997 (Rel. 35, Last sequence update)
01-NOV-1997 (Rel. 35, Last sequence update)
05-JUL-2004 (Rel. 44, Last annotation update)
Ectonucleoside triphosphate diphosphotydrolase 1 (EC 3.6.1.5)
(NTPDasel) (Ecto-ATP diphosphohydrolase) (ATPDase) (Lymphoid cell
activation antigen) (Ecto-apyrase) (CD39 antigen).
Name=Entpdl; Synonyms=Cd39;
Mus musculus (Mouse).
                                                                                                                                                                                                                                                                    Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
NCBI_TaxID=10090;
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Cytoplasmic (Potential)
  510 AA
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EMBL; AF041812; AAC83203.1; JOINED.
EMBL; AF041813; AAC83203.1; JOINED.
EMBL; AF041814; AAC83203.1; JOINED.
EMBL; AF041815; AAC83203.1; JOINED.
EMBL; AF041816; AAC83203.1; JOINED.
EMBL; AF041816; AAC83203.1; JOINED.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    structural characterization.";
J. Immunol. 153:3574-3583(1994).
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STANDARD;
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MOUSE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FINSHCPYSQCAFNGVFLPPLHGSFGAFSAFYFVMDFFKKVAKNSVISQEKMTEITKNFC
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                                                                                                                                                                                                                                                                                                      KFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                     DLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DIGGASTQITFVPQNSTIESPENSLQFRLYGEDYTVYTHSFLCYGKDQALWQKLAKDIQV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FNTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEK--VSQEKVTEMMKKFC
                                                                                                                                                                                                                           IFLSSTQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGIS
                                                                                                                                                                                                                                                                                                                                                                             ERSLSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILEL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          371 AQPWEBIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGW
                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STRAIN=C57BL/6J; TISSUE-Testis;
MEDLINE=99279253; PubMed=10349636; DOI=10.1016/S0076-6879(99)03004-9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Butheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus.
NCBI_TaxID=10090;
| (GlCNAc. . .) (Potential) . | (GlCNAc. . .) (Potential) . | (GlCNAc. . .) (Potential) . | (GlCNAc. . .) (Potential) . | (GlCNAc. . .) (Potential) . | (GlCNAc. . .) (Potential) . | (GlCNAc. . .) (Potential) . |
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "Functional annotation of a full-length mouse cDNA collection.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-MAR-2003 (TrEMBLrel. 23, Created)
01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
01-OTT-2003 (TrEMBLrel. 25, Last annotation update)
Mus musculus adult male testis cDNA, RIKEN full-length enriched
library, clone:4921511C05 product:ectonucleoside triphosphate
diphosphohydrolase 1, full insert sequence.
Name=Entpdl;
                                                                                                                                                                                        4
                                                                                                                                                    Length 510;
                                                                                                                                                                                        58; Indels
 N-linked (GlCNAC. .) (Pot
N-linked (GlCNAC. .) (Pot
N-linked (GlCNAC. .) (Pot
N-linked (GlCNAC. .) (Pot
N-linked (GlCNAC. .) (Pot
N-linked (GlCNAC. .) (Pot
N-linked (GlCNAC. .) (Pot
W, 8EGAGI13D2E13930 CRC64;
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MEDLINE=21085660; PubMed=11217851; DOI=10.1038/35055500;
RIKEN FANTOM Consortium;
                                                                                                                                                    75.2%; Score 1836; DB 1; 75.8%; Pred. No. 2.7e-134;
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                                                                                                                                                                                      46; Mismatches
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"High-efficiency full-length cD
Meth. Enzymol. 303:19-44(1999).
                                                                                                               M.W.
73
226
291
333
428
457
57205 A
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   73
226
291
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510 AA;
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Name=Entpd1;
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Adachi, U.S. Aizawa K., Arimura T., Hara A., Hashizume W.,

Fukuda S., Furuno M., Hanagaki T., Hara A., Hashizume W.,

Hayashida K., Hayaste N., Hiramoto K., Hirozana T.,

Hayashida K., Hayaste N., Hiramoto K., Hirozana T.,

A Hayashida K., Hayaste N., Hiramoto K., Hirozana T.,

A Hayashida K., Matuyasaki M., Kondo B., Konno H., Kouda M., Koya S.,

Karch H., Kawai J., Kojima Y., Kondo S., Konno H., Kouda M., Koya S.,

Karch H., Kawai T., Kojima Y., Kondo S., Konno H., Kouda M., Koya S.,

Kurihara C., Matuyasaki R., Murata M., Nakamura M.,

Nishi K., Nomura K., Numazaki R., Murata M., Obsato N., Okazaki Y.,

Sato R., Satoh H., Sakai C., Sakai K., Sakazume N., Sano H.,

Sasaki D., Shibata K., Shinaqawa A., Shiraki T., Soqobe Y., Taqami M.,

Taqawa A., Taya T., Yasunishi A., Muramatsu M., Hayashizaki Y.,

Tomaru A., Toya T., Yasunishi A., Muramatsu M., Hayashizaki Y.,

Submitted (UUL-2001) to the EMBL/GenBank/DDBJ databases.

EMBL; AKO29512; BAC26486.1; -.

RGJ; GO:00016021; C:integral to membrane, TAS.

GO: GO:0004050; F:apyrase activity; IDA.

GO: GO:000186; P:apyrase activity; IDA.

GO: GO:000186; P:apyrase activity; IDA.

GO: GO:000186; P:apyrase activity; IDA.

GO: 0000186; P:platelet activation; IDA.

GO: 0000186; P:platelet activation; IDA.

GO: 0000186; P:platelet activation; IDA.

GO: 0000186; P:platelet activation; IDA.

GO: 0000186; P:platelet activation; IDA.

GO: 0000186; P:platelet activation; IDA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.

STRAIN=CSTBL/61; TISSUE=Testis;
STRAIN=CSTBL/61; TISSUE=PESTIS;
MEDLINE=20330913; PubMed=11076861; DOI=10.1101/gr.152600;
A MEDLINE=20330913; PubMed=11076861; DOI=10.1101/gr.152600;
A Konno H., Akiyama J., Nishi K., Kitsunai T., Tashiro H., Itoh M., Konno H., Ishiin T., Harada A., Sumi N., Ishii Y., Nakamura S., Hazama M., Nishine T., Kashiwagi K., A Yamamoto R., Matsumoto H., Sakaguchi S., Ikegami T., Kashiwagi K., A Yoneda Y., Ishikawa T., Ozawa K., Tanaka T., Matsuura S., Kawai J., Yoneda Y., Ishikawa T., Ozawa K., Tanaka T., Matsuura S., Kawai J., Nokazaki Y., Muramatau M., Inoue Y., Kira A., Hayashizaki Y.;
RIKEN integrated sequence analysis (RISA) system-384 format sequencing pipeline with 384 multicapillary sequencer.;
                                                                                                                                 the RIKEN Genome Exploration Research Group Phase I & II Team; "Analysis of the mouse transcriptome based on functional annotation of 60,770 full-length cDNAs."; Nature 420:563-573(2002).
                                                                                                                                                                                                                                                                                                   STRAIN=C57BL/6J; TISSUB=Testis; MEDLINE=20499374; PubMed=11042159; DOI=10.1101/gr.145100; Carninci P., Shibata Y., Hayatsu N., Sugahara Y., Shibata K., Itoh M., Konno H., Okazadi Y., Muramatsu M., Hayashizaki Y.; Normalization and subtraction of cap-trapper-selected cDNAs to prepare full-length cDNA libraries for rapid discovery of new genes."; Genome Res. 10:1617-1630(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   122 KYAOKTDEIGAYLAECMELSTELIPISKHHQTPVYLGATAGMRLLRMESEQSADEVLAAV
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75.2%; Score 1836; DB 2; Length 539;
Best Local Similarity 75.8%; Pred. No. 2.9e-134;
Matches 338; Conservative 46; Mismatches 58; Indels
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Pfam; PF01150; GDA1 CD39; 1.
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                                            SEQUENCE FROM N.A.
STRAIN-C57BL/6J; TISSUE=Testis;
The FANTOM Consortium,
Nature 409:685-690(2001)
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SEQUENCE FROM N.A.

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SEQUENCE FROM N.A.

SEQUENCE FROM N.A.

STRAIN=CZECH II; TISSUE=Mammary tumor;

MEDININE-22808.25; PubMed=12477932; DOI=10.1073/pnas.242603899;

Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,

Altschul S.F., Zebeberg B. Buetow K.H., Schaefer C.R., Schuler G.D.,

Altschul S.F., Zebeberg B. Buetow K.H., Schaefer C.R., Bhat N.K.,

Altschul S.F., Zebeberg B. Buetow K.H., Schaefer C.R., Bhat N.K.,

And Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Haish F.,

Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

Stapleton M., Soares M.B., Bonaldo M.F., Casrainci P., Prange C.,

Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,

Raha S.S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

A Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

A Hilalon D.R., Maray D.M., Sodergren E.J., Lu X., Gibbs R.A.,

Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,

Mhiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,

Radriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,

Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,

Radriguez A.C., Grimwood J., Schmutz J., Myers R.M., Schein J.E.,

A Generation and initial analysis of more than 15,000 full-length human
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ERSLSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGAL 192
                                                                                                                                                                                                                                                                                                            253 ASNEILEDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPPQQFEIQGIGNYQQCHQSILEL
                                                                                                                                      DLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALMQKLAKDIQV
                                                                                                                                                                     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
NCBI TaxID=10090;
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Last annotation update)
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proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002)
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01-DEC-2001 (TrEMBLrel. 19,
01-OCT-2003 (TrEMBLrel. 25,
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Klausner R.D., Collins F.S., Wagner L., Shemmen C.M., Schuler G.D.,
Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Heiteh F.,
Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
Stapleron M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Mullahy S.J.,
Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
                                                                                                                                            I FLSSTONKALPENVKYGI VLDAGSSHTSLYI YKWPAEKENDTGVVHQVEECRVKGPGIS
                                                                                                                                                                                                                                            ERSLSNYPPDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGAL
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GO; GO:0006200; P:ATP catabolism; IDA.
GO; GO:0007186; P:G-protein coupled receptor protein signalin. .;
GO; GO:0007181; P:platelet activation; IDA.
GO; GO:0009181; P:platelet activation; IDA.
PEAM; PF01150; GDA1 CD39; 1.
PROSITE; PS01238; GDA1 CD39 NTPASE; 1.
SEQUENCE 510 AA; 57176 MW; E77BB644AE1413A0 CRC64;
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Catarrhini; Hominidae; Homo.
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MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;
                                                                                                Length 510;
                                                                                                                        59; Indels
                                              CD39, 1.
DA1_CD39_NTPASE; 1.
S7176_MW; E77BB644AE1413A0_CRC64;
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Last annotation update)
                                                                                               75.0%; Score 1831; DB 2; 75.6%; Pred. No. 6.7e-134;
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                                                                                                                       46; Mismatches
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Mammalia; Eutheria; Primates;
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(TrEMBLrel. 24, L
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                                                                                          Query Match
Best Local Similarity
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01-MAR-2004 (TrE
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Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G., Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C., Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S., Krzywinski M.I., Skalaka U., Smailus D.E., Schnerch A., Schein J.E., Jones S.J., Marra M.A., "Generation and initial analysis of more than 15,000 full-length human and mouse CDNA sequences.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61 VPYETNNQETFGALDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGK
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             179 VPYETNNQETFGALDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGK
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Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Rattus.
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16-OCT-2001 (Rel. 40, Last sequence update)
25-OCT-2004 (Rel. 45, Last annotation update)
Ectonucleoside triphosphate diphosphohydrolase 1 (EC 3.6.1.5)
(NTPDasel) (Ecto-ATP diphosphohydrolase) (ATPDase) (Lymphoid activation antigen) (Ecto-apyrase) (CD39 antigen).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2; Length 372;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                      Strauberg R.;
Strauberg R.;
Submitted (MAR-2003) to the EMBL/GenBank/DDBJ databases.
EMBL; BC047664; AAH47664.1; -.
EMBL; BC04016787; F:hydrolase activity; IEA.
InterPro; IPRO00407; GDA1_CD39_NTPase.
Pfam; PF01150; GDA1_CD39; 1.
PROSITE; PS01238; GDA1_CD39; NTPASE; 1.
SEOUENCE 372 AA; 42731 MW; ABB1DE1366356EE3 CRC64;
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STRAIN-Sprague-Dawley; TISSUE-Brain, and Hippocampus;
PubMed=9221928;
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                                                                                                                                                                                  and mouse cDNA sequences.";
Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 1818; DB 2; I
Pred. No. 4.6e-133;
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Brain Res. Mol. Brain Res. 47:295-302(1997)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       74.5%; Score 1818;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity 100.'
Matches 338, Conservative
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NCBI_TaxID=9823;
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       STRAIN=Wistar; TISSUE=Cochlea; MEDLINE=20050856; PubMed=10581401; DOI=10.1016/S0169-128X(99)00244-2; Vlajkovic S.M., Housley G.D., Greenwood D., Thorne P.R.; Evidence for alternative splicing of ecto-AlPase associated with termination of purinergic transmission.";
                                                                                                                                                                   Neuropharmacology 36:1189-1200(1997).

-I-FUNCTION: In the nervous system, could hydrolyze ATP and other nucleotides to regulate purinergic neurotransmission. Could also be implicated in the prevention of platelet aggregation.

Hydrolyzes ATP and ADP equally well.

-I-CATALYTIC ACTIVITY: ATP + 2 H(2)0 = AMP + 2 phosphate.

-I-COPACTOR: Requires calcium and magnesium.

-I-SUBGELLULAR LOCATION: Integral membrane protein (Potential).

-I-SUBGELLULAR LOCATION: Integral membrane protein and astrocytes, kidney, liver, muscle, thymus, lung and spleen.

-I-PTM: N-91ycosylated.

-I-SIMILARITY: Belongs to the GDAI / CD39 NTPase family.
                                                                                                   STRAIN=Sprague-Dawley, TISSUE-Brain, MEDLINE-98031057; PubMed=9364474; DOI=10.1016/S0028-3908(97)00115-9; Kegel B., Braun N., Heine P., Maliszewski C.R., Zimmermann H.; "An ecto-ATPase and an ecto-ATP diphosphohydrolase are expressed in rat brain.";
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                             InterPro; IPR000407; GDA1_CD39_NTPase.
Pfsan; PP01150; GDA1_CD39; 1.
PROSITE; PS01238; GDA1_CD39_NTPASE; 1.
Antigen; Caltium; Glycoprotein; Hydrolase; Magnesium; Transmembrane.
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Cytoplasmic (Potential).
N-linked (GlCNAc. . ) (P.
N-linked (GlCNAc. . ) (P.
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N-linked (GlCNAc. . ) (P.
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N-linked (GlCNAc. . ) (P.
N-linked (GlCNAc. . ) (P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Cytoplasmic (Potential). Potential.
                                                                       Brain Res. Mol. Brain Res. 73:85-92(1999)
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                                                                                               SEQUENCE OF 432-511 FROM N.A.
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Y15685; Chr.
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511 AA;
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1. J. Biol. Chem. 271:33116-33122 (1996).

1. FUNCTION: In the nervous system, could hydrolyze ATP and other nucleotides to regulate purinergic neurotransmission. Could also be implicated in the prevention of platelet aggregation. Could also be implicated in the prevention of platelet aggregation. Hydrolyzes ATP and ADP equally well.

1. CATALYTIC ACTIVITY: ATP + 2 H(2)O = AMP + 2 phosphate.

1. CORACTOR: Requires calcium and magnesium (By similarity).

1. SUBNUT: Homodimer; disulfide-linked (By similarity).

1. SUBNUT: Homodimer; disulfide-linked (By similarity).

1. SUBNUT: Homodimer; Highest expression found in vascular endothelium, smooth muscle, spleen and lung.

1. PTM: Cleaved into two polypeptides that seem to stay together by noncovalent interactions.

2. Intransity: Belongs to the GDAI / CD39 NTPase family.
                                                                                                                                                                                       392 SKPWEEVKASYPTVKEKYLSEYCFSGTYILSLILQGYNFTGTSWDQIHFWGKIKDSNAGW
DLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQV
                                                                                                                                             ASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILEL
                                                                                                                                                                                                                                                                                              FNTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFL-NLTSEKV-SQEKVTEMMKKFC
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Lemmens R., Vanduffel L., Kittel A., Beaudoin A.R., Benrezzak O.,
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Sus.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   i6-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
05-UTL-2004 (Rel. 44, Last annotation update)
Ectonucleoside triphosphate diphosphohydrolase 1 (EC 3.6.1.5)
(NTPDasel) (Ecto-ATP diphosphohydrolase) (ATPDase)
activation antigen) (Ecto-apyrase) (CD39 antigen).
Name=ENTPD1; Synonyms=CD39;
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Mammalia, Butheria, Cetartiodactyla, Suina, Suidae,
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TISSUE=Aortic endothelium;
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16-OCT-2001 (Rel. 40, Last sequence update)
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    for commercial
                 (See http://www.isb-sib.ch/announce/
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InterPro; IFR000407; GDA1_CD39_NTPase.
Pfam; PF011460; GDA1_CD39; 1.
PROSITE; PS01238; GDA1_CD39_NTPASE; 1.
Antigen; Calcium; Direct protein sequencing; Glycoprotein; Hydrolase; Magnesium; Transmembrane.
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Ectonucleoside triphosphate
diphosphohydrolase 1 27 kDa
Ectonucleoside triphosphate
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                                                                                                                                                 Ectonucleoside triphosphate
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Extracellular (Potential).
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modified and this statement is not removed. entities requires a license agreement (See lor send an email to license@isb-sib.ch).
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(Rel. 40, Created)

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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the Buropean Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@ib.ch).
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Antigen; Calcium; Direct protein sequencing; Glycoprotein; Hydrolase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           J. Biol. Chem. 271:33116-33122(1996).

-!- FUNCTION: In the nervous system, could hydrolyze ATP and other nucleotides to regulate purinegic neurotransmission. Could also implicated in the prevention of platelet aggregation. Hydrolyzes ATP and ADP equally well.

-!- CATALYTIC ACTIVITY: ATP + 2 H(2)O = AMP + 2 phosphate.

-!- COFACTOR: Requires calcium and magnesium.

-!- SUBUNIT: Homodimer, dilfide-linked (By similarity).

-!- SUBCELLULAR LOCATION: Integral membrane protein (Potential).

-!- SIMILARITY: Belongs to the GDA1 / CD39 NTPase family.
05-JUL-2004 (Rel. 44, Last annotation update)
Stonucleoside triphosphate diphosphohydrolase 1 (EC 3.6.1.5)
(WTPDase1) (Ecto-ATP diphosphohydrolase) (ATPDase) (Lymphoid cell
activation antigen) (CD39 antigen) (Ecto-apyrase).
                                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
Bovinae; Bos.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    d (GlcNAc. . .) (Potential).
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Extracellular (Potential).

Potential.

Cytoplasmic (Potential).

N-linked (GlCNAc. . .) (Potential).

N-linked (GlCNAc. . .) (Potential).

N-linked (GlCNAc. . .) (Potential).

N-linked (GlCNAc. . .) (Potential).

N-linked (GlCNAc. . .) (Potential).

N-linked (GlCNAc. . .) (Potential).
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                                                                                                                                                                                                                                                                                                                                                                                                                                 Chang A.S., Garcia R.L., Chang S.M., Schilling W.P.;
Submitted (MAY-1997) to the EMBL/GenBank/DDBJ databases.
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INV -> CGF (in Ref. 2).
K -> V (in Ref. 2).
20FE98F27B6D2F96 CRC64;
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64; Mismatches 67;
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                                                                                                                               Name=ENTPD1; Synonyms=CD39;
Bos taurus (Bovine).
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TISSUE-Aortic endothelium;
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Magnesium; Transmembrane
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LFNTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEK-VSQEKVTEMMKKFC 370
                                                                 The FANTOM Consortium, the RIKEN Genome Exploration Research Group Phase I & II Team; the RIKEN Genome Exploration Research Group Phase I & II Team; "Analysis of the mouse transcriptome based on functional annotation of 60,770 full-length cDNAs.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
STRAIN=C57BL/6J; TISSUB=Skin;
MEDLINB=20499374; PUMbed=11042159; DOI=10.1101/gr.145100;
Carninci P., Shibata Y., Hayatsu N., Sugahara Y., Shibata K., Itoh M.,
Konno H., Okazaki Y., Muramatsu M., Hayashizaki Y.;
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                                                                                                                                                     SLSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDL
                                                                                                                                                                                                                                                                              GGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVAS
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STRAIN=CS7BL/64; TISSUE=Skin;
MEDLINE=9927923; PubMed=10349636; DOI=10.1016/S0076-6879(99)03004-9;
Carninci P., Hayashizaki Y.;
"High-efficiency full-length cDNA cloning.";
Meth. Enzymol. 303:19-44(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
01-OCT-2003 (TrEMBLrel. 23, Last sequence update)
Mus musculus 10 days neonate skin CNNA, RIKEN full-length enriched library, clone:4732419M16 product:ectonucleoside triphosphate diphosphohydrolase 1, full insert sequence. (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Craniata; Vertebrata; Euteleostomi;
Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RIKEN FANTOM Consortium, "Functional annotation of a full-length mouse cDNA collection.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
STRAIN=C57BL/63; TISSUE=Skin;
MEDLINE=21085660; PubMed=11217851; DOI=10.1038/35055500;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TLGYMLNLTNMIPAEOPLSTPLSHST 456
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Mammalia; Eutheria; Rodentia;
NCBI_TaxID=10090;
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STRAIN=C57BL/6J; TISSUE=Skin;
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Nature 420:563-573(2002).
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Adachi J., Alzawa K., Akimura T., Arakawa T., Bono H., Carninci P., Adachi J., Alzawa K., Akimura T., Hara A., Hashizume W., Arutuno M., Hanagaki T., Hara A., Hashizume W., A Fukuda S., Furuno M., Haramoto K., Hiracka T., Hirozane T., A Hayashida K., Hayatsu N., Hiramoto K., Hiracka T., Kasukawa T., A Katoh H., Kawa J., Kojima Y., Kondo S., Konno H., Kouda M., Koya S., Kurihara C., Matsuyama T., Miyazaki A., Murata M., Nakamura M., Nishi K., Nomura K., Numazaki R., Ohno M., Ohsato N., Okazaki Y., A Saito H., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sakai K., Sa
"Normalization and subtraction of cap-trapper-selected cDNAs to prepare full-length cDNA libraries for rapid discovery of new genes."; Genome Res. 10:1617-1630(2000).
                                                                                                                                                                                                                SEQUENCE FROM N.A.

SEQUENCE FROM N.A.

STAIN=C37BL/6J; TISSUE=Skin;

STAIN=C37BL/6J; TISSUE=Skin;

STAIN=C37BL/6J; TISSUE=Skin;

Shibata R., Itch M., Airawa K., Nagaoka S., Sasaki N., Carninci P.,

A Konno H., Akiyama J., Nishi K., Kitsunai T., Tashiro H., Itch M.,

A Vamamoto R., Matsumoto H., Sakaguchi S., Ikegami T., Harada A.,

A Vamamoto R., Matsumoto H., Sakaguchi S., Ikegami T., Kashiwagi K.,

A Pujiwake S., Inoue K., Togawa Y., Izawa M., Ohara E., Watshiki M.,

A Noneda Y., Ishikawa T., Ozawa K., Tanaka T., Matsuura S., Kawai J.,

A Okazaki Y., Muramateu M., Inoue Y., Kira A., Hayashizaki Y.,

"RIKEN integrated sequence analysis (RISA) system-384 format

sequencing pipeline with 384 multicapillary sequencer.";
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GO; GO:0005605; C:basal lamina; IDA.
GO; GO:0005605; C:basal lamina; IDA.
GO; GO:0004005; F:apyrase activity; IDA.
GO; GO:0004009; P:ATP catabolism; IDA.
GO; GO:0007186; P:G-protein coupled receptor protein signalin. ..;
GO; GO:0003186; P:platelet activation; IDA.
GO; GO:0003181; P:purine ribonucleoside diphosphate catabolism; IDA.
InterPro; IPR000407; GDAL CD39 NTPasse.
Fam; PF01150; GDAL_CD39:1.
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Best Local Similarity 74.5%;
Matches 289; Conservative
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Rausher R. D., Collins F. S., Wagner L., Schaefer C. P., Bhat N. K.,
Altschul S. F., Zeeberg B. Buerow K. H., Schaefer C. F., Bhat N. K.,
Hopkins R. F., Jozdan H., Moore T., Max S. I., Wang J., Hsieh F.,
A platchenko L., Marusina K., Farmer A. A., Rubin G. M., Hong L.,
Brownstein M. J., Usdin T. B., Toshiyuki S., Carninci P., Frange C.,
Raha S.S., Loquellano N. A., Peters G. J., Abramson R. D., Mullahy S. J.,
Bosak S. A., McKeman K. J., Malek J. A., Gunzarene P. H.,
Richards S., Worley K. C., Hale S., Garcia A. M., Gay L. J., Hulyk S. W.,
A Nilalon D. K., Muzny D. M., Sodergren E. J., Lu X., Gibbs R. A.,
Whiting M., Madan A., Young A. C., Shevchenko Y., Boulfard G. G.,
Muhiting M., Madan A., Young A. C., Shevchenko Y., Boulfard G. G.,
Blakesley R. W., Touchman J. W., Green E. D., Dickson M. C.,
Jones S. J., Marra M. A.,
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300 FCSKSWBETKTSYPSVKEKYLSBYCFSGAYILS-LLQGYNFTGSSWBQIHFMGKIKDSNA 358
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       68 PAEKENDTGVVQQINECKVEGNGISSYGHEPLKAGLSLQKCMNKARQVIPEKQQRETPVY 127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LGATAGMRLLRMESEELADRVLDVVERSLSNYPFDFQGARIITGQEEGAYGWITINYLLG 167
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4 RNOOTWFEG-IFLSS------TONKALPENVKYGIVLDAGSSHTSLYIXKW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                     Xenopus tropicalis (Western clawed frog) (Silurana tropicalis).
Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Amphibia, Batrachia, Anura, Mesobatrachia, Pipoidea, Pipidae,
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Submitted (JUL-2004) to the EMBL/GenBank/DDBJ databases.
EMBL; BCD6662; AAH76662.1; -C. AAH76662.1; -C. GO: GO:0016787; F:hydrolase activity; IEA.
InterPro; IPR000407; GDAL CD39_NTPase.
Pfam; PF01150; GDAL CD39_NTPASE, 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DAI CD39 NTPASE; 1.
57322 MW; 12CAEACOSBEABDEB CRC64;
                                                                                                                                                                                                                                     Last sequence update)
Last annotation update)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           59.6%; Score 1455; DB 2; 1
57.3%; Pred. No. 1.2e-104;
ive 80; Mismatches 102;
                                                                                                                                                                                 508 AA
                                                       GWTLGYMLNLTNMIPAEQPLSTPLSHST 456
                                                                             359 GWTLGYMLNLTNMIPAEQPLSPPLPHST 386
                                                                                                                                                                                                                    Created)
                                                                                                                                                                                 PRT;
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(TrEMBLrel. 28, I
(TrEMBLrel. 28, I
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                                                                                                                                                                                 PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                            Xenopodinae; Xenopus.
                                                                                                                                                                                                                                                                    Entpdl-prov protein.
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                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=8364;
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25-OCT-2004
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TISSUE-Spleen,

WEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;

A Straubberg R.L., Feingold B.A., Grouce L.H., Derge J.G.,

A Klausher R.D., Collins F.S., Magner L., Shenmen C.M., Schuler G.D.,

A Lischul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,

A Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,

A Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

B Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

B Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

B Diatchenko L., Marusina K., Farmer R.J., Mallahy S.J.,

B Brownstein M.J. Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

B Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

B Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,

Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

Nilalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,

Radan A., Young A.C., Shevchenko Y., Bouffard G.G.,

B Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,

B Rodiguez A.C., Galimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,

Krzywinski M.I., Skalska U., Smailus D.E., Schnerch A., Schein J.E.,

T "Generation and initial analysis of more than 15,000 full-length human
                                                                                                                                                                                                                                                                                                                                                                                                                                        407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        425
246 IYTHSFLCYGKDQALRLQIANSIKDATDSILLDPCFNSGYRRNASTNDLYSSPCISKLRI 305
                                                                                                                                                                                                                                                                                                                       306 PTAPSTLDIRGTGNYQLCKRNVQAIFNRTHCTYSHCSFNGVFQPSLDGTFGAFSAYYFVM 365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   228 VYTHSFLCYGKDQALWQKLAKDIQVASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEM
                                                                                                                                                                                                                                                                         288 TLPFQQFEIQGIGNYQQCHQSILELFNTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVM
                                                                                                                                                                                                                                                                                                                                                                                                                                        348 KFLNLTSEKVSQEKVTEMMKKPCAQPWEEIKTSYAGVKEKYLSEYCPSGTYILSLLLLQGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE-22341132; PubMed-12454917; DOI-10.1002/dvdy.10174;
Klein S.L., Strausberg R.L., Wagner L., Pontius J., Clifton S.W.,
Richardson P.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    'Genetic and genomic tools for Xenopus research: The NIH Xenopus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    408 HFTADSWEHIHFIGKIQGSDAGWTLGYMLNLTNMIPAEQPLSTPLSHS 455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       426 GFSSENWNDIRFLGKIKDSDAGWTLGYMLNLTNMIPAELPYSPPLSHA 473
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Last sequence update)
Last annotation update)
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27,
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05-JUL-2004 (TrEMBLrel.
05-JUL-2004 (TrEMBLrel.
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Klein S., Gerhard D.S.;
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56.5%;
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Matches 252; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             73 KFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVV 132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PWERIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTL 432
                                                                                                                                                                                                    STRAIN-Singapore local strain; TISSUE-Embryo;
PubMed=12477932; DOI=10.1073/pnas.242603899;
Strausberg R.L., Feingld E.A., Grouse L.H., Derge J.G.,
Klausner R.D., Collins F.S., Wagner L., Schaefer C.F., Bhat N.K.,
Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
Hopkins R.F., Jordan H., Moore T., Max S.L., Wang J., Hsieh F.,
Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Frange C.,
Brows S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
                                                                                                                                                                                                                                                                 SYGHEPTKAGLSLQKCMNKARQVIPEMQQKETPVYLGATAGMRLLRLNNATWAEEVLSSV
                                                                                                                                                                                                                                                                                                                             13 IFLSSTQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGIS
                                                                                                                                                                                                                                                                                                                                                                                                                                  ASN'ELLRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILEL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Actinopterygii, Neopterygii, Teleostei, Ostariophysi, Cypriniformes,
Cyprinidae, Danio.
NCBI_TaxID=7955,
                                                                                                                                                       2;
                                                                                                                       Length 508;
                                                                                                                      58.2%; Score 1420; DB 2; Length 5 58.3%; Pred. No. 6.5e-102; ive 75; Mismatches 108; Indels
   databases
                                                                         GDA1 CD39 NTPASE; 1.
; 57049 MW; BD205818A06C523B CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Created)
Last sequence update)
Last annotation update)
to the EMBL/GenBank/DDBJ
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Name-zgc:100819;
Brachydanio rerio (Zebrafish) (Danio rerio).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              492 AA
Submitted (JUN-2004) to the EMBL/GenBank/I

BMBL; BC073267, AAH73267.1; -.

GO:0016787; F:hydrolase activity, IEA.

InterPro; IPR000407; GDAI_CD39_NTPase.

PRAM; PF01150; GDAI_CD39_NTPASE; I.

PROSITE; GDAL_CD39_MTPASE; I.

SEQUENCE 508 AA; S7049 MW; BD205818A06
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                                                                                                         Query Match
Best Local Similarity 58.33,
....hes 259; Conservative
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06004
AC 06004
AC 06004
DT 25-00
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DT 25-00
DE Zgc:1
GN Brach
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RR SEQUE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ILELFNTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKK 368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DLGGASTQITFVPQ-QIIESSDNSIDFRLYGNDYHLYTHSFLCYGKDQALKLAMAEKLRS 254
Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A., Fahey J., Helton B., Ketteman M., Madan A., Rodrigues S., Sanchez A., Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G., Blakeeley R.W., Touchman J.W., Green B.D., Dickson M.C., Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S., Krzywhiski MI., Skalaka U., Smailus D.E., Schnerch A., Schein J.E., "Generation and initial analysis of more than 15,000 full-length human and mouse CDNA sequences."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   73 KFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SYFDKPHGAGASLEECWKEAKEKIPAHRHSETPVYLGATAGWRLLKWEDEWASEKVLTSV
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                13 IPLSSTONKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ERSLSNYPPDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DIGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQV
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Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Butheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 2; Length 492;
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05-0022;
05-001-2004 (TrEMBLrel. 27, Created)
05-001-2004 (TrEMBLrel. 27, Last sequence update)
Nucleoside (TrEMBLrel. 27, Last annotation update)
Nucleoside triphosphate diphosphohydrolase-8 (EC 3.6.1.5)
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                                                                                                                                                                                                                                                                                 Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002)
                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
DIRECTOR MGC PROJECTS
Submitted (JUL-2004) to the EMBL/GenBank/DDBJ dat
EMBL; BC078240; ARH788240.1; --
GO; GO:00045797; F:hydrolase activity; IEA.
InterPro; IPR000407; GDAL_CD39_NTPASE.
PROSITS GDAL_CD39_NTPASE;
PROSITS GDAL_CD39_NTPASE;
SEQUENCE 492 AA; 55507 WW; B789ABGDFCGA032B C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   66; Mismatches 105;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pred. No. 1.8e-93;
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64 NKRKDIGVVSQALITQIEGPGISSYTSDPTQAGESLKSCLEEALALIPQAQHPETPTFLG 123
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SVYTHSYLCFGRDQILNRLLAKTAQDRLSSQVAP---VRHPCYHSGYQAILPLSSLYDSP 293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EKPNDIGVVHQVEECRVKGPGISKFVQKVNEIGIYLIDCMERAREVIPRSQHQETPVYLG 109
                                                                                                                                                                                                                                                                                                                                                                                                                                ATAGMRLLRMESEELADRVLDVVERSLSNYPFDFQGARIITGQEEGAYGWITINYLLG-- 167
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTSYCP-YSQCAFNGIFLPPLQGDFGA 339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CIHTTDSLNHTQNLTVEGTGDPGNCVVALRSLFNFSSCKGQKDCAFNGIYQPPVHGQFYA 353
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Name=ENTPD1; Synonyms=CD39;
Gallub gallus (Chicken).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
                                                                                                                                                                                                                                                                      Gaps
SEQUENCE FROM N.A.
STRAIN=C57BL/6; TISSUE=Liver;
Bigonnesse F., Levesque S.A., Kukulski F., Lecka J., Robson S.C.,
Fernandes M.J.G., Sevigny J.;
Fernandes M.J.G., Sevigny J.;
Submitted (AUG-2003) to the EMBL/GenBank/DDBJ databases.
EMBL, A7364442; AA084519.1; -
GO; GO:001050; F:apyrase activity; IEA.
GO; GO:0016787; Fhydrolase activity; IEA.
InterPro; IPR004047; GDA1_CD39_NTPase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
16-OCT-2004 (Rel. 44, Last annotation update)
Ectorucleoside triphosphate diphosphohydrolase 1 (EC 3.6.1.5)
(NTPDasel) (Ecto-ATP diphosphohydrolase) (ATPDase) (Lymphoid cell activation antigen) (Ecto-apyrase) (CD39 antigen).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TISSUE=Oviduct;
MEDILINE=98298108; PubMed=9632655; DOI=10.1074/jbc.273.26.16043;
Nady A.K., Knowles A.F., Nagami G.T.;
"Molecular cloning of the chicken oviduct ecto-ATP-
                                                                                                                                                                                                                                                                      40;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          43.0%; Score 1048; DB 2; Length 497; 45.5%; Pred. No. 5.7e-73; ive 79; Mismatches 136; Indels 46
                                                                                                                                                                                                       497 AA; 54650 MW; 00DE822B6EEB1BDF CRC64;
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                                                                                                                                                                                                                                                                 213;
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SEQUENCE
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Best Local 8
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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isp-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           83 IYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSNYPFD
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              23 LPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQKVNEIG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           InterPro; IPR000407; GDA1_CD39_NTPase.
Pfam; PR01120; GDA1_CD39; 1.
PR0SITE; PS01238; GDA1_CD39_NTPASE; 1.
Antigen; Calcium; Direct protein sequencing; Glycoprotein; Hydrolase;
                                                                                                                                                                               nd other
Could also
                                                                                                                                                      J. Biol. Chem. 272.23645-23652(1997).

-i. FUNCTION: In the nervous system, could hydrolyze ATP and othe nucleotides to regulate purinesgic neurotransmission. Could a be implicated in the prevention of platelet aggregation.

Hydrolyzes ATP and ADP equally well (By similarity).

-i. CATALYTIC ACTIVITY: ATP + 2 H(2)0 = AMP + 2 phosphate.

-i. CORACTOR: Requires calcium and magnesium (By similarity).

-i. SUBUNIT: Homodimer; disulfide-linked (Probable).

-i. SUBCLULAR LOCATION: Integral membrane protein (Potential).

-i. PTM: N-glycosylated.

-i. SIMILARITY: Belongs to the GDAl / CD39 NTPase family.
                                                                                            Lewis-Carl S., Kirley T.L.; "Immunolocalization of the ecto-ATPase and ecto-apyrase in chick gizzard and stomach. Purification and N-terminal sequence of the stomach ecto-apyrase.";
                                                             TISSUE=Stomach;
MEDLINE=97442428; PubMed=9295305; DOI=10.1074/jbc.272.38.23645;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (Potential)
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I -> G (in Ref. 1; AA sequence)
F14FF4C3AA2F3603 CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ilarity 45.7%; Pred. No. 1.5e-69;
Conservative 73; Mismatches 144; Indels
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Extracellular (Potential).
Potential.
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diphosphohydrolase.";
J. Biol. Chem. 273:16043-16049(1998)
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54034 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL; AF041355; AAC26491.1;
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DOMAIN 1
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493 AA;
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Les 196; Conserv
                                               SEQUENCE OF 1-17.
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completed: March
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                                                                                                                                                                                                                                                                                                                                                                                      35 LPPGTKYGLVFDAGSTHTALYVYQWPADKENGTGIVSQVESCTVNGSGISSYADDPAGAG 94
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                              210 QITFQP-GVTIEDKNTSVLFRLYGTNYSLYTHSYLCYGQIQASKRLMAALHQDGSYVQN-
                                                                                                                 257 ILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTS
QVTFVPQNQT1ESPDNALQFRLYGKDYNVYTHSFLCYGKDQA----LWQKLAKD1QVASNE
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01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-UN-2003 (TrEMBLrel. 24, Last annotation update)
Ecto-ATP-diphosphohydrolase (EC 3.6.1.5).
Gallus gallus (Chicken).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE-21920, PubWed=11985621;
Knowles A.F., Nagy A.K., Strobel R.S., Wu-Weis M.;
Knowles A.F., Nagy A.K., Strobel R.S., Wu-Weis M.;
Fination, characterization, cloning, and expression of the chicken liver ecto-Arp-diphosphohydrolase.";
Eur. J. Biochem. 269:2373-2382(2002)
EMBL; AF426405; AAL25086.1; -..
GO; GO:0004050; F:apyrase activity; IEA.
GO; GO:0016787; F:hydrolase activity; IEA.
FPGINES, GDAI_CD39; 1.
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45.7%; Pred. No. 5.3e-69;
tive 72; Mismatches 145; Indels
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Matches 196; Conservative
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        Qy
        317 YCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEE

        Db
        327 CGANRTCGFDGVYQPPVRGGFFAGFYYTFSFLNLTGQQ-SLSHVNATVMPFCNKNWSE

        Qy
        377 IKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHPIGKIQGSDAGWTLGFML

        Db
        386 LVETNMIPAE 445

        Qy
        437 NLTNMIPAE 445

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Soluble CD39; human; apyrase activity; platelet activation; inhibitor; unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; preclampsia; embolism; platelet-associated ischaemic disorder; thrombotic disorder; reocclusion; coagulopathy; deep venous thrombosis; DVT; pulmonary embolism; PB; thrombus formation; occlusion; stenosis; restenosis; anglogenesis; antianginal; cerebroprotective; antiarteriosclerotic; anticoagulant; cardiant; vasotropic; thrombolytic.
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    .37
/note= "Human CD39-L4 protein N-terminal end"

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/note= "Human soluble CD39 protein"
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06-NOV-1998;
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                GenCore version
Copyright (c) 1993 - 2005
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2440
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Maximum Match 100%
Listing first 45 summaries
                                                                                  protein search, using sw model
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AAY70890
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AAB71917
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geneseqp200s:*
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Match
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The present sequence is a fusion protein construct CD39-L4-1, comprising the human CD39-L4 N-terminal region and soluble CD39 protein. CD39-L4 is a secreted apprase, belonging to the CD39 family. Soluble CD39 is constructed by removing the N- and C-terminal transmembrane domains. It retains the capacity to metabolise ATP and ADP at relevant concentrations and the ability to block and reverse ADP-induced platelet activation and recruitment, including platelet adgregation. Soluble CD39 polypeptides are useful for inhibiting angiogenesis. It is useful for the treatment of unstable angina, mycocardial infarction, strok, coronary artery disease or injury, atherosclerosis, peripheral vascular occlusion, preeclampsis, embolism, platelet-associated ischaemic disorders including lung, peripheral and cerebral artery thrombosis, intracardiac and venous thrombosis coagulopathy, deep venous thrombosis (DVT), pulmonary composits (PDF) and transient ischaemic attack. Soluble CD39 is also useful cor preventing thrombus formation or reformation, occlusion, reocclusion, genenosis or testenosis of blood vessels or stroke
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infarction, stroke, coronary artery disease or injury.
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100.0%; Pred. No. 1.7e-241;
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                                           Claim 6; Page 89-91; 122pp; English
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les 456; Conserv
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ò 셤 Soluble CD39; ADP-induced platelet activation; platelet aggregation; unstable angina; myocardial infarction; stroke; coronary artery disease; Protein encoded by CD39-L4-1 construct AAY70888 standard; protein; 476 AA (first entry) 17-AUG-2000 AAY70888;

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The present sequence is a fusion construct of human soluble CD39 encoded by CD39-L4-1 construct. CD39-L4 is a secreted apyrase belonging to the CD39 family. The fusion construct is used for the expression and activity of soluble CD39 in CHO (chinese hamseter ovary) cells. Soluble CD39 cretains the capacity of wildtype CD39 to metabolise ArP and ADP at physiologically relevant concentrations as well as the ability to block and reverse ADP-induced platelet activation and recruitment including platelet aggregation. This is used in the treatment of unstable angina, choractelerosis, peripheral vascular occlusion, precelampsia, embolism, platelet-associated ischaemic disorder including lung ischaemia, coronary ischaemia and cerebral ischaemia, thrombosis, intracardiac thrombosis, coagulopathy, deep venous thrombosis, thrombosis, thrombosis, coagulopathy, deep venous thrombosis (DT3), pulmonary embolism (PB), thrombosi formation or reformation, occlusion, reocclusion, stenosis or thrombosis of thrombosis of thrombosis.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Inhibiting platelet activation and recruitment, useful for treating a mammal suffering from unstable angina, myocardial infarction, stroke, coronary artery disease or injury, comprises administering soluble CD39
                 platelet-associated ischaemic disorder; lung ischaemia; thrombolytic; cerebral ischaemia; thrombotic disorder; coronary artery thrombosis; cerebral artery thrombosis; intracardiac thrombosis; venous thrombosis;
atherosclerosis; peripheral vascular occlusion; preeclampsia; embolism;
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                                                                                                                              cerebroprotective; antiarteriosclerotic; vasotropic; anticoagulant;
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100.0%; Pred. No. 1.7e-241;
iive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                     /note= "Soluble portion of CD39"
                                                                                                                                                                                                                                                              l. .37
/note= "Derived from CD39-L4"
                                                                                                                                                   coronary ischaemia; vascular occlusion.
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                                                                                                                                                                                                                                         Location/Qualifiers
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98US-0107466P.
99US-0149010P.
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(CORR ) CORNELL RES FOUND INC.
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38. .476
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                                                                                                                                                                                         KVTEMMKKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFI 420
                                                                                                                                                                                                  Soluble CD39; human, apyrase activity; platelet activation; inhibitor; unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; preclampsia; embolism; platelet-asqociated ischaemic disorder; thrombotic disorder; reocclusion; coagulopathy; deep venous thrombosis; DVT; pulmonary embolism; PE; thrombus formation; occlusion; stenosis; restenosis; angiogenesis; antianginal; cerebroprotective; antiarteriosclerotic; anticoagulant;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /label= Cys, Ser
//note= "Xaa= Cys in CD39-L4-2 and Xaa=Ser in CD39-L4-3"
49. 476
/note= "Human soluble CD39 protein"
                                                                                   YETNNQETFGALDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQ
VEECRVKGPGISKFVQKVNBIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRME
        SEELADRVLDVVERSLSNYPPDFQGARIITGQBEGAYGWITINYLLGKFSQKTRWFSIVP
                                               YETNNOETFGALDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQ
                                                                                                             ALMOKLAKDIQVASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIG
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/note= "Human CD39-L4 protein N-terminal end"
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                                                                                                                                                                                                                                        GKIQGSDAGWTLGYMLNLTNMIPAEQPLSTPLSHST 476
                                                                                                                                                                                                                             GKIQGSDAGWTLGYMLNLTNMIPAEQPLSTPLSHST 456
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The present sequence is a fusion protein construct CD39-L4-2/3, comprising the human CD39-L4 N-terminal region and soluble CD39 protein. CD39-L4 is a secreted apyrase, belonging to the CD39 family. Soluble CD39 is constructed by removal of N- and C-terminal transmembrane domains. It retains the capacity to metabolise AFP and ADP at relevant concentrations and the ability to block and reverse ADP-induced platelet activation and recruitment, including platelet aggregation. Soluble CD39 polypeptides are useful for inhibiting angiogenesis. It is useful for the treatment of unstable angina, myocardial infarction, scrobe, coronary artery disease or injury, atherosolerosis, peripheral vascular occlusion, preeclampsia, coronary and cerebral schemaia, thrombosic disorders including lung, coronary and cerebral artery thrombosis, intracardiac and venous thrombosis, coagulopathy, deep venous thrombosis (DVT), pulmonary corpusating thrombuse formation or reformation, occlusion, reocclusion, stenosis or restenosis of blood vessels or stroke
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61 VEBCRVKGPGISKFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VEECRVKGPGISKFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEBLADRVLDVVERSLSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   YETNNQETFGALDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                201 YETINNQETFGALDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 VSHRNQQTWFEGIFLSSTQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NYQQCHQSILELFNTSYCPYSQCAFNGI PLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                   New soluble CD39 polypeptides having apyrase activity, useful for inhibiting angiogenesis and treating unstable angina, myocardial infarction, stroke, coronary artery disease or injury.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GKIQGSDAGWTLGYMLNLTNMIPAEQPLSTPLSHST 456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 2373; DB 3;
Pred. No. 1.3e-234;
2; Mismatches 9;
   Gimpel SD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GKIQGSDAGWTLGYMLNLTNMIPAEQPLSTPLSHST
ζ,
                                                                                                                                                                                                                                             Claim 6; Page 91-93; 122pp; English.
   Price
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   RB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Local Similarity 97.6
Matches 445; Conservative
   Gayle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 476 AA;
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Gaps

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Length 476; Indels

Score 2373; DB 3; Pred. No. 1.3e-234; 2; Mismatches 9;

97.3%; 97.6%;

Query Match
Best Local Similarity 97.6
Matches 445; Conservative

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140

61 VEBCRVKGPGISKFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRME 120

VEECRVKGPGISKFVQXVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRME

VSHRNQQTWFEGIFLSSMXPINVSASTLYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQ 80

VSHRNQQTWFEGIFLSSTQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQ

SEELADRVLDVVERSLSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVP 180

121 141 181

SEELADRVLDVVERSLSNYPFDFQGARIITGGEEGAYGWITINYLLGKFSQKTRWFSIVP

200 240 260 300

360

420

321 NYQQCHQSILELFNTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQE 380

NYQQCHQSILELFNTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQE

301

261 ALWOKLAKDIQVASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIG 320

ALWOKLAKDIQVASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIG

241

201 YETNNQETFGALDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQ

YETNNQETFGALDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQ

KVTEMMKKRCAQPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFI 440

456

GKIQGSDAGWTLGYMLNLTNMIPAEQPLSTPLSHST 476 GKI QGSDAGWTLGYMLNLTNMI PAEQPLSTPLSHST

AAY70913 standard; protein; 454 AA

AAY70913

(first entry)

17-AUG-2000

AAY70913;

KVTEMMKKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFI

361 381 421

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The present sequence is a fusion construct of human soluble CD39 encoded by CD39-L4-2 and CD39-L4-3 constructs. CD39-L4 is a secreted apyrase belonging to the CD39 family. The fusion construct is used for the expression and activity of soluble CD39 in CHO (chinese hamster ovary) cells. Soluble CD39 retains the capacity of wildtype CD39 to metabolise ATP and ADP at physiologically relevant concentrations as well as the ability to block and reverse ADP-induced platelet activation and recruitment including platelet aggregation. This is used in the treatment of unstable angina, myocardial infarction, stroke, coronary artery disease or injury, atherosclerosis, peripheral vascular occlusion, preclampsia, embolism, platelet-associated ischaemia, a thrombosis, coronary artery thrombosis, creebral artery thrombosis, thrombosis, intracardiac thrombosis, peripheral artery thrombosis, venous thrombosis, intracardiac thrombosis, peripheral artery thrombosis, coronary actory thrombosis, creebral artery thrombosis, pulmonary embolism (PE), transient ischaemic attack. Soluble CD39 is also useful for preventing thrombus formation or reformation, occlusion, reconsis or restenosis of blood vessels or stroke
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unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; preeclampsia; embolism; platelet-associated ischeemic disorder; lung ischaemia; thrombolytic; coronary ischaemia; cerebral ischaemia; coronary artery thrombosis; cerebral artery thrombosis; intracardiac thrombosis; venous thrombosis; peripheral artery thrombosis; coagulopathy; deep venous thrombosis; DVT; PE; pulmonary embolism; transient ischaemic attext; thrombosis; DVT; PE; pulmonary embolism; transient ischaemic attext; thrombus formation; occlusion; reocclusion; stenosis; restenosis; antianginal; cardiant; cerebroprotective; antiarteriosclerotic; vasotropic; anticoagulant; thrombotic disorder; vascular occlusion.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Inhibiting platelet activation and recruitment, useful for treating a mammal suffering from unstable angina, myocardial infarction, stroke, coronary artery disease or injury, comprises administering soluble CD39 polypeptides.
                                                                                                                               Soluble CD39; ADP-induced platelet activation; platelet aggregation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note= "Any amino acid preferably Cys or Ser"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /note= "Soluble portion of CD39"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1. .48
/note= "Derived from CD39-L4"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Maliszewski CR, Gayle RB, Marcus AJ
                                                                 Protein encoded by CD39-L4 construct.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (IMMV ) IMMUNEX CORP.
(CORR ) CORNELL RES FOUND INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  99WO-US023641.
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99US-0149010P.
   (first entry)
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Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WO200023094-A2
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17-AUG-2000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 27-APR-2000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Region
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo
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Soluble CD39; solCD39; human; apyrase activity; platelet activation; unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; preeclampsia; embolism; platelet-associated ischaemic disorder; thrombotic disorder; reocclusion; coagulopathy; deep venous thrombosis; DVT; pulmonary embolism; PE; thrombos formation; occlusion; restenosis; angiogenesis; antianginal; cerebroprotective; antiateriosclerotic; anticoagulant; cardiant; vasotropic; thrombolytic; inhibitor; interleukin 2; IL2.
                                                                                     Human soluble CD39 and IL2 N-terminus comprising fusion construct.
                                                                                                                                                                                                                                                                                                                                                           16. .454
/note= "Human soluble CD39 protein"

    .15
/label= Mature human interleukin_2
/note= "N-terminal region"

                                                                                                                                                                                                                                                                                                 Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     99WO-US022955
                                                                                                                                                                                                                                                                                                                                                                                                         WO200023459-A1
                                                                                                                                                                                                                                                        Homo sapiens.
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                                                                                                                                                                                                                                                                    Synthetic.
                                                                                                                                                                                                                                                                                                                  Protein
                                                                                                                                                                                                                                                                                                                                                              Protein
                                                                                                                                                                                                                                                                                                    Key
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Sequence 476 AA;

AAY70890 standard; protein; 454 AA

AAY70890

AAY70890;

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The present sequence is a fusion construct, comprising the N-terminal amino acids of mature human interleukin2 (IL2) and soluble CD39 (solCD39) region, that has apyrase activity. This results in high levels of solCD39 expression and activity in the transfected cells. Soluble CD39 is constructed by removing the N- and C-terminal transmembrane domains. It retains the capacity to metabolise ATP and ADP at relevant concentrations and the ability to block and reverse ADP-induced platelet activation and recruitment, including platelet aggregation. Soluble CD39 polypeptides are useful for inhibiting angiogenesis. It is useful for the treatment of unstable angina, myocardial infarction, stroke, coronary artery disease or injury, atherosclerosis, peripheral vascular occlusion, precelampsia, embolism, platelet-associated ischaemic disorders including curonary, coronary and cerebral ischaemia, thrombotic disorders including coronary,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        peripheral and cerebral artery thrombosis, intracardiac and venous thrombosis (DVT), vulmonary embolism (PE) and transient isochaemic attack. Soluble CD39 is also useful for preventing thrombus formation or reformation, occlusion, reocclusion,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWE 375
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  76 QKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERS 135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLG 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLG 193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                255
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    433
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHPIGKIQGSDAGWTLGYM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      16 SSTQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GASTQVTFVPQNQT1ESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKD1QVASN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFBIQGIGNYQQCHQSILELFNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EIKTSYAGVKEKYLSEYCFSGTYILSLILQGYHFTADSWEHIHFIGKIQGSDAGWTLGYM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                  New soluble CD39 polypeptides having apyrase activity, useful for inhibiting angiogenesis and treating unstable angina, myocardial infarction, stroke, coronary artery disease or injury.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     96.6%; Score 2356; DB 3; Length 454; 100.0%; Pred. No. 6.9e-233; ive 0; Mismatches 0; Indels 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          stenosis or restenosis of blood vessels or stroke
                                                                                                                    Gimpel SD;
                                                                                                                    Price VL,
                                                                                                                                                                                                                                                                                                    Claim 6a; Page 95-97; 122pp; English
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98US-0104585P.
98US-0107466P.
99US-0149010P.
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                                                                                                                  Maliszewski CR, Gayle RB,
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                                                                             (IMMV ) IMMUNEX CORP.
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Best Local Similarity
                                                                                                                                                            2000-339644/29.
                                                                                                                                                                               N-PSDB; AAD00206
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  16-OCT-1998;
                                       13-AUG-1999;
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The present sequence is the protein encoded by a fusion construct of soluble)CD39 having apyrase activity. Fusion of 12 amino acids from the N-terminus of mature human IL2 to the solCD39 coding region results in high levels of both expression and activity in the supernatants of transfected cells. This is used in the treatment of unstable angina, myocardial infarction, stroke, cornary artery disease or injury, atherosclerosis, peripheral vascular occlusion, preeclampsia, embolism, platelet-associated ischaemic disorder including lung ischaemia, coronary ischaemia and cerebral ischaemia, thrombosis, intracardiac thrombosis, peripheral trery thrombosis, venous thrombosis, thrombosis, cerebral artery thrombosis, venous thrombosis, thrombosis, constructory thrombosis, between the peripheral artery thrombosis (by), pulmonary embolism (PB), transient ischaemic attack. Soluble CD39 is also useful for preventing thrombus formation or reformation, occlusion, reocclusion, stenosis or
                                                                                                                                  Soluble CD39; ADP-induced platelet activation; platelet aggregation; unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; preeclampsia; embolism; platelet-associated ischaemic disorder; lung ischaemia; thrombolism; platelet-associated ischaemic disorder; coronary artery thrombosis; cerebral artery thrombosis; intracardiac thrombosis; venous thrombosis; peripheral artery thrombosis; or peripheral artery thrombosis; or peripheral artery thrombosis; canding thrombosis; properipheral artery thrombosis; restenosis; attack; thrombosis; procelusion; stenosis; restenosis; antianginal; cardiant; cerebroprotective; antiarteriosclerotic; vasotropic; anticoagulant;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Inhibiting platelet activation and recruitment, useful for treating a mammal suffering from unstable angina, myocardial infarction, stroke, coronary artery disease or injury, comprises administering soluble CD39
                                                                                                 Protein encoded by fusion construct of human soluble CD39 cDNA-1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "Human soluble CD39 protein"

    .15
    /label= Mature human_interleukin_2
    /note= "N-terminal region"

                                                                                                                                                                                                                                                                                                                                          coronary ischaemia; vascular occlusion.
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                                                                                                                                                                                                                                                                                                                                                                                                                                          Location/Qualifiers
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(CORR ) CORNELL RES FOUND INC.
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98US-0107466P.
99US-0149010P.
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                                                         (first entry)
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13-AUG-1999;
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WPI; 2000-339644/29.
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                                13-OCT-1999;
                                                    16-OCT-1998;
                                                              06-NOV-1998;
                                                                         13-AUG-1999;
                                                                                                                 Maliszewski
            27-APR-2000
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                                                                                                                                                                                                                                                                                                                                                EIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYM 433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Soluble CD39; solCD39; human; apyrase activity; platelet activation; unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; preclampsia; embolism; platelet-associated ischaemic disorder; thrombotic disorder; reocclusion; coagulopathy; deep venous thrombosis; bVT; pulmonary embolism; PE; thrombus formation; occlusion; stenosis; restenosis; angiogenesis;
                                                                                                                                                                                                                                                                                                              SYCPYSQCAFNCIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWE 373
                                                                                                     73
                                                                                              14 SSTQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFV
                                                                                 SSTQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFV
                                                                                                                         QKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERS
                                                                                                                                    LSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLG
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                                                               Gaps
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/label= Leader_peptide
/note= "Derived from human interleukin 2 (hIL2)"
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                                           Length 454;
                                                              Indels
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/note= "Human soluble CD39 protein"
                                        Score 2356; DB 3; I
Pred. No. 6.9e-233;
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                                                              Mismatches
restenosis of blood vessels or stroke
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100.0%; Pre-
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                     Sequence 454 AA;
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The present sequence is the fusion protein construct, pIL2LTrin4. This construct comprises of the leader peptide from human interleukin 2 (hIL2) and soluble CD39 (solCD39) protein region, having apyrase activity.

Soluble CD39 is constructed by removing the N- and C-terminal transmembrane domains. It retains the capacity to metabolise ATP and ADP at relevant concentrations and the ability to block and reverse ADP-induced platelet activation and recruitment, including platelet activation and recruitment, including platelet aggregation. Soluble CD39 polypeptides are useful for inhibiting myocardial infarction, coronary attery disease or injury, embolism, atherosclerosis, peripheral vascular occlusion, preeclampsia, platelet ischaemia, thrombotic disorders including lung, coronary and cerebral ischaemic disorders including coronary, peripheral and cerebral artery thrombosis, intracardiac and venous thrombosis, coagulopathy, deep venous thrombosis (DVT), pulmonary embolism (PE) and transient ischaemic attack. Soluble CD39 is also useful for preventing thrombus formation or reformation, occlusion, reocclusion, stenosis or
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                                                                                                                                                                                                                                                                                                                                                                                                                                        New soluble CD39 polypeptides having apyrase activity, useful for inhibiting angiogenesis and treating unstable angina, myocardial infarction, stroke, coronary artery disease or injury.
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                                                                                                                                                                                                                                                                                                 Gimpel SD;
                                                                                                                                                                                                                                                                                                 Price VL,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      restenosis of blood vessels or stroke
                                                                                                            98US-0107466P.
99US-0149010P.
99WO-US022955,
                                                                         98US-0104585P.
                                                                                                                                                                                                                                                                                                 RB,
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Best Local Similarity 100.
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                                                                                                                                                                                                                                                                                unstable angina; myocardial infarction; stroke; coronary artery disease, atherosclerosis; peripheral vascular occlusion; preeclampsia; embolism; platelet-asfociated ischaemic disorder; lung ischaemia; thrombolytic; cerebral ischaemia; thrombolic disorder; long ischaemia; thrombolis; cerebral artery thrombosis; intracardiac thrombosis; peripheral artery thrombosis; coagulopathy; deep venous thrombosis; peripheral artery thrombosis; cagulopathy; deep venous thrombosis; ps; pullmonary embolism; transient ischaemic attack; thrombos formation; occlusion; reocclusion; stenosis; restenosis; antianginal; cardiant;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Inhibiting platelet activation and recruitment, useful for treating a mammal suffering from unstable angina, myocardial infarction, stroke, coronary artery disease or injury, comprises administering soluble CD39 polypeptides.
                                                                                                                                                                                                                                                                  CD39; ADP-induced platelet activation; platelet aggregation;
                                                                                                                                                                                                                                                                                                                                                                                                                        cerebroprotective; antiarteriosclerotic; vasotropic; anticoagulant;
                                                                                                                                                                                                                                                                                                                                                                                                                                      coronary ischaemia; vascular occlusion; pIL2Trim4 variant
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                                                                                                                                                                                                                                  Protein encoded by Trim 4 construct.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Location/Qualifiers
                 456
                                                                                                                                 AAY70901 standard; protein; 473 AA
                             LILLINI PAEQPLSTPLSHST
               LNLTNMIPAEOPLSTPLSHST
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98US-0107466P.
99US-0149010P.
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(CORR ) CORNELL RES FOUND INC
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                                                                                                                                                                                                (first entry)
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               436
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                                                                                                                                                                AAY70901;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Soluble CD39; solCD39; human; apyrase activity; platelet activation; unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; preeclampsia; embolism; platelet-associated ischaemic disorder; thrombotic disorder; reocclusion; coagulopathy; deep venous thrombosis; pulmonary embolism; pE; thrombos formation; occlusion; restenosis; angiogenesis; antianginal; cerebroprotective; antiteriosclerotic; anticoagulant; cardiant; vasotropic; thrombolytic; inhibitor; interleukin 2; IL2.
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                                                                                                                                                                                                                                                                                                                                                                                                                                 213 GASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                333 SYCPYSOCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWE
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                                                                                                                                                                                                  SSTQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFV
                                                                                                                                                                                                                                                 76 QKVNBIGIYLIDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERS
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                                                                                                                                                                              16 SSTQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFV
                                                                                                                                          Gaps
              reformation, occlusion, reocclusion, stenosis or restenosis of blood
Soluble CD39 is also useful for preventing thrombus formation or
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0
                                                                                                     Length 473;
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/note= "Cleavage site of leader sequence"
                                                                                                                                          Indels
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/note= "Human soluble CD39 protein"
                                                                                                                       Pred. No. 7.4e-233;
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                                                                                                       DB 3;
                                                                                                     96.6%; Score 2356; D
100.0%; Pred. No. 7.4
ive 0; Mismatches
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                                                                                                                                          Matches 441; Conservative
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                                   vessels or stroke
                                                                     Sequence 473 AA;
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Synthetic.
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                                                                                                       Query Match
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Maliszewski CR,
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06-NOV-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                        Synthetic.
          394
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                                                                                                     RESULT 10
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    135
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               34 SSTĎNKALPENVKYGIVLDAGSSHTSLYIYKMPAEKENDTGVVHQVEECRVKGPGISKFV 93
                                                                                                                                                                                                                                                                                                                                                                                                                                                        ischaemia, thrombotic disorders including coronary, peripheral and cerebral artery thrombosis, intracardiac and venous thrombosis, coagulopathy, deep venous thrombosis (DVT), pulmonary embolism (PE) and transient ischaemic attack. Soluble CD39 is also useful for preventing thrombus formation or reformation, occlusion, reocclusion, stenosis or restenosis of blood vessels or stroke
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                                                                                                                                                                      Gimpel SD;
                                                                                                                                                                     Price VL,
                                                                                                                                                                                                                                                                          Claim 6; Page 113-114; 122pp; English.
                                                                                        98US-0104585P.
                                                                99WO-US022955
                                                                                                                 99US-0149010P
                                                                                                                                                                      Maliszewski CR, Gayle RB,
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                                                                                                                                                                                               WPI; 2000-339644/29.
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13-AUG-1999;
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The present sequence is the protein encoded by Trim3 construct. pIL2Trim3 variant was constructed by removing the human IL2 residues from solCD39 thision construct. Pusion of 12 amino acids from the N-terminus of mature human IL2 to the solCD39 coding region results in high levels of both expression and activity in the supernatants of transfected cells. SolCD39 stroke, coronary artery disease or injury, atheroscatial infarction, stroke, coronary artery disease or injury, atheroscalerosis, peripheral disorder including lung ischaemia, embolism, platelet-associated ischaemic disorder including lung ischaemia, coronary ischaemia and cerebral ischaemia, a thrombosic disorder including coronary artery thrombosis, intracardiac thrombosis, peripheral artery
Soluble CD39; ADP-induced platelet activation; platelet aggregation; unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; preclampsia; embolism; platelet-associated ischaemic disorder; lung ischaemia; thrombotic; cerebral ischaemia; thrombotic disorder; lung ischaemia; thrombosis; cerebral artery thrombosis; intracardiac thrombosis; anous thrombosis; peripheral artery thrombosis; coagulopathy; deep venous thrombosis; peripheral artery thrombosis; coagulopathy; deep venous thrombosis; DVT-PE; pulmonary embolism; transient ischaemic attack; thrombus formation; ceclusion; reocclusion; etenosis; restenosis; antianginal; cardiant; cerebroprotective; antiatteriosclerotic; vasotropic; anticoagulant; coronary ischaemia; vascular occlusion; plL2Trim3 variant.
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36. .474
/note= "Soluble portion of CD39"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Example 11; Page 113-114; 118pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Protein encoded by Trim 3 construct.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAY70900 standard; protein; 474 AA
                                                                                                                                                                                                                                               LNLTNMIPAEQPLSTPLSHST
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98US-0107466P.
99US-0149010P.
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(CORR ) CORNELL RES FOUND INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               99WO-US023641.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              17-AUG-2000 (first entry)
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Gimpel

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The present sequence is a fusion construct pIL21solCD39, comprising the leader peptide of human interleukin 2 (hIL2), 12 amino acids from the mature N-terminus of hiz2 and soluble CD39 (solCD39) coding region.

CC meature N-terminus of hiz2 and soluble CD39 is ocding region.

CC having apyrase activity. This produces high levels of solCD39 expression and activity in the transfected cells. Soluble CD39 is constructed by comparing the N- and C-terminal transmembrane domains. It retains the capacity to metabolise ATP and ADP at relevant concentrations and the ability to block and reverse ADP-induced platelet activation and comparing platelet aggregation. Soluble CD39 polypeptides are useful for inhibiting angiogenesis. It is useful for the treatment of unstable angins, myocardial infarction, stroke, coronary artery disease cor injury, atherosclerosis, peripheral vascular occlusion, precelampsia, embolism, platelet-associated ischaemia, thrombotic disorders including lung, coronary and cerebral ischaemia, thrombotic disorders including lung, thrombosis, coagulopathy, deep venous thrombosis (DVT), pulmonary embolism (PB) and transient ischaemia etteck. Soluble CD39 is also useful cor preventing thrombos formation or reformation, occlusion, reocclusion,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        New soluble CD39 polypeptides having apyrase activity, useful for inhibiting angiogenesis and treating unstable angina, myocardial infarction, stroke, coronary artery disease or injury.
  "Derived from N-terminal end of human IL2"
                                                                                            /note= "Human soluble CD39 protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                stenosis or restenosis of blood vessels or stroke
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100.0%; Pred
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.13 "Linker"
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98US-0107466P.
99US-0149010P.
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       /note=
                                  37. .39
/note=
                                                                                                                                                                                                                                                                                                                                                                            (IMMV) IMMUNEX CORP.
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N-PSDB; AAD00207
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13-AUG-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                       94 OKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERS 153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    213
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                                                                                                                                                                                                                                                                                                             34 SSTQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVECKVKGPGISKFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EIKTSYAGVKEKYLSEYCFSGTYILSLLLQQYHFTADSWEHIHFIGKIQGSDAGWTLGYM
thrombosis, venous thrombosis, thrombosis, coagulopathy, deep venous thrombosis (DVT), pulmonary embolism (PE), transient ischaemic attack. Soluble CD39 is also useful fer preventing thrombus formation or reformation, occlusion, recocclusion, stenosis or restenosis of blood
                                                                                                                                                                                                                                                                                SSTQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFV
                                                                                                                                                                                                                                                                                                                                                                            76 OKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LSNYPPDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLG
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/label= Leader peptide
/note= "Derived from human interleukin 2 (hIL2)"
25. 36
                                                                                                                                                                                                                                       ö
                                                                                                                                                                                        Length 474;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human soluble CD39 fusion protein construct, pIL2LsolCD39.
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                                                                                                                                                                                        Score 2356; DB 3; I
Pred. No. 7.4e-233;
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                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                   Query Match
Best Local Similarity
                                                                                              vessels or stroke
                                                                                                                                          Sequence 474 AA;
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                                                                                                                            97
                                                                                       75
                                                                                                               38 SSTONKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFV
                                                                                                                                                                                             QKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERS
                                                                                                                                                                                                                                                        LSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLG
                                                                                                                                                                                                                                                                                158 LSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLG
                                                                                                                                                                                                                                                                                                                                                              QKVNEIGIYLIDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERS
                                                                                                                                                                                                                                                                                                                                        196 GASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASN
                                                                                       SSTONKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFV
                                             Gaps
                                             ö
  Length 478;
                                           Indels
Score 2356; DB 3; L
Pred. No. 7.5e-233;
0; Mismatches 0;
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Disclosure; Page 99-101; 118pp; English.
                                                                                                                                                                                                                    Query Match
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                                                                                                                                                                                                                                                                    Soluble CD39; ADP-induced platelet activation; platelet aggregation; unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; precelampsia; embolism; platelet-associated ischaemic disorder; lung ischaemia; thrombolytic; cerebral ischaemia; thrombotic disorder; lung ischaemia; thrombosis; cerebral artery thrombosis; intracardiac thrombosis; peripheral artery thrombosis; intracardiac thrombosis; peripheral artery thrombosis; coagulopathy; deep venous thrombosis; peripheral actory thrombosis; coagulopathy; deep venous thrombosis; pripheral actory thrombosis; restenosis; antianginal; cardiant; cocclusion; stenosis; restenosis; antianginal; cardiant;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Inhibiting platelet activation and recruitment, useful for treating a mammal suffering from unstable angina, myocardial infarction, stroke, coronary artery disease or injury, comprises administering soluble CD39 polypeptides.
EILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNT
                                  EIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYM
                     SYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWE
                                                               BIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYM
                                                                                                                                                                                                                                                                                                                                                                        cerebroprotebtive; antiarteriosclerotic; vasotropic; anticoaqulant;
                                                                                                                                                                                                                                                                                                                                                                                                                                                  1. .24
'note= "hulL2 leader sequence"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "Mature human IL2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               40. .478
/note= "SolCD39 protein"
                                                                                                                                                                                                                                                                                                                                                                                  coronary ischaemia; vascular occlusion
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Maliszewski CR, Gayle RB, Marcus AJ;
                                                                                                                                                                                                                                                                                                                                                                                                                                     Location/Qualifiers
                                                                                                          456
                                                                                                                                                                                    AAY70891 standard; protein; 478 AA
                                                                                                                                                                                                                                                 Protein encoded by pIL2Lsol CD39.
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                                                                                                          LNLTNMIPAEOPLSTPLSHST
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(CORR ) CORNELL RES FOUND INC.
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98US-0107466P.
99US-0149010P.
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                                                                                                                                                                                                                             (first entry)
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/note= "?
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                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens.
Synthetic.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   13-AUG-1999;
                                                                                                                                                                                                         AAY70891;
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pilisolocols, agence construct encoding sol (soluble) CD39 having apyrase activity. Fusion of 12 amino acids from the N-terminus of mature human LL2 to the solcD39 coding region results in high levels of both expression and activity in the supernatants of transfected cells. This is used in the treatment of unstable angina, myocardial infarction, stroke, coronary artery disease or injury, atheroscelerosis, peripheral vascular occlusion, precelampsia, embolism, platelet-associated ischaemic disorder thrombotic disorder including lung ischaemia, coronary ischaemia and cerebral ischaemia, a thrombotic disorder including coronary artery thrombosis, cerebral artery thrombosis, thrombosis, coagulopathy, deep venous thrombosis (DVT); transient ischaemic attack. Soluble CD39 is also useful for preventing thrombos formation or reformation, occlusion, recoclusion, stenosis or restenosis of blood vessels or stroke
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    217
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            195
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERS 135
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWE 375
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   38 SSTQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SSTONKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GASTOVTFVPQNQTIESPDNALOFRLYGKDYNVYTHSFLCYGKDQALWOKLAKDIOVASN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
   region of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         96.6%; Score 2356; DB 3; Length 478; 100.0%; Pred. No. 7.5e-233; Live 0; Mismatches 0; Indels (
sequence is protein encoded by the coding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    456
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LNLTNMIPAEOPLSTPLSHST
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nes 441; Conservative
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(IMMV ) IMMUNEX CORP
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This construct comprises of the leader peptide from human immunoglobulin Igkappa, linked to the soluble CD39 (solCD39) protein region by few residues defived from human interleukin 2 (hIL2). SolCD39 has apyrase activity and is constructed by removing the N- and C-terminal transmembrane domains. It retains the capacity to metabolise ATP and ADP transmembrane domains. It retains the ability to block and reverse ADP- induced platelet activation and recruitment, including platelet aggracian. Soluble CD39 polypeptides are useful for inhibiting aggregation. Soluble CD39 polypeptides are useful for inhibiting myocardial infarction, coronary artery disease or injury, embolism, atherosclerosis, peripheral vascular occlusion, preeclampsia, plateletisescociated ischaemic disorders including lung, coronary and cerebral ischaemia, thrombotic disorders including coronary, peripheral and cerebral artery thrombosis, intracardiac and venous thrombosis,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            82
                                                                                                                                                              .24
te= "Residues derived from human interleukin 2 (IL2)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             coagulopathy, deep venous thrombosis (DVT), pulmonary embolism (PE) and transient ischemic attack. Soluble CD39 is also useful for preventing thrombus formation or reformation, occlusion, reocclusion, stenosis or restenosis of blood vessels or stroke
antianginal; cerebroprotective; antiarteriosclerotic; anticoagulant; cardiant; vasotropic; thrombolytic; inhibitor; interleukin 2; IL2; Ig; immunoglobulin kappa.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   23 TSTQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFV
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                            /note= "Derived from human immunoglobulin Ig kappa"
                                                                                                                                                                                                                                                                                                                                                                                                                           New soluble CD39 polypeptides having apyrase activity, useful for inhibiting angiogenesis and treating unstable angina, myocardial infarction, jstroke, coronary artery disease or injury.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 463;
                                                                                                                                     20. .21
/note= "Cleavage site of leader sequence"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0; Indels
                                                                                                                                                                                        25. .463
/note= "Human soluble CD39 protein"
                                                                                                                                                                                                                                                                                                                                                                               Gimpel SD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 2353; DB 3;
Pred. No. 1.5e-232;
1; Mismatches 0;
                                                                                                      .. .20
|abel= Leader_peptide
                                                                                                                                                                                                                                                                                                                                                                            Price VL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 6; Page 116-118; 122pp; English.
                                                                                      cocation/Qualifiers
                                                                                                                                                                                                                                                                                                     98US-0104585P.
98US-0107466P.
99US-0149010P.
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                                                                                                                                                                                     .463
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                                                                                                                                                                             'note=
                                                                                                                                                                                                                                                                                                                                                     (IMMV ) IMMUNEX CORP.
                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 2000-339644/29.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                            Maliszewski CR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 463 AA;
                                                                                                                                                                                                                            WO200023459-A1
                                                                                                                                        Cleavage-site
                                                  Homo sapiens.
Synthetic.
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06-NOV-1998;
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                                                                                                 Peptide
                                                                                                                                                                                        Protein
                                                                                                                                                               Region
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                                                                                                                                                     GASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASN 262
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                                                                                                                                                                                                                                                              EILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNT 322
                                                                                                                                                                                                                                                                                                                     375
                                                                                                                                                                                                                                                                                                                                                 SYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWE 382
                                                                                                                                                                                                                                                                                                                                                                                                                               435
                                                                                                                                                                                                                                                                                                                                                                                                                                                          EIKTSYAGVKEKYLSEYCFSGTYILSLLLQSYHFTADSWEHIHFIGKIQGSDAGWTLGYM 442
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; preeclampsia; embolism; platelet-essociated ischaemic disorder; lung ischaemia; thrombolytic; cerebral ischaemia; thrombotic disorder; coronary artery thrombosis; ntracardiac thrombosis; peripheral artery thrombosis; intracardiac thrombosis; peripheral artery thrombosis; coagulopathy; deep venous thrombosis; ps. plmonary embolism; transient ischaemic attack; thrombosis; DVT; PS; pulmonary embolism; transient ischaemic attack; thrombos formation; occlusion; reocclusion; stenosis; restenosis; antianginal; cardiant; cerebroprotective; antiateriosclerotic; vasotropic; anticoagulant; coronary ischaemia; vascular occlusion; lgkappalsolCD39 construct.
                              143 LSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLG
                                                                                                      GASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASN
                                                                                                                                                                                                                  EILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNT
                                                                                                                                                                                                                                                                                                                     SYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWE
                                                                                                                                                                                                                                                                                                                                                                                                                               EIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYM
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note= "Soluble portion of CD39"
25. .32
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/note= "Igkappa leader sequence"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          463
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98US-0107466P.
99US-0149010P.
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06-NOV-1998;
13-AUG-1999;
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Human soluble CD39 fusion protein construct, pIL2LTrim1.
     17-AUG-2000 (first entry)
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                                                                                                                                                                                                                                      The present sequence is the protein encoded by IgkappalsolCD39 construct. This is used for transient expression of soluble (sol)CD39 in recombinant cells for determining enzymatic activity and platelet inhibitory activity for each protein product. SolCD39 is used in the treatment of unstable angina, myocardial infarction, stroke, coronary artery disease or injury, platelet-associated infarction, troke, coronary artery disease or injury, platelet-associated ischaemia, coronary platelet-associated ischaemia, thrombocic disorder including lung ischaemia, coronary artery thrombosis, cerebral artery thrombosis, thrombosis, peripheral artery thrombosis, thrombosis, peripheral artery thrombosis, thrombosis, transient ischaemic attack. Soluble CD39 is also useful for preventing thrombus formation or reformation, occlusion, reocclusion, stenosis or restenosis or stroke
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLG 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALMQKLAKDIQVASN 262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNT 315
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        82
                                                                                                        Inhibiting platelet activation and recruitment, useful for treating a mammal suffering from unstable angina, myocardial infarction, stroke, coronary artery disease or injury, comprises administering soluble CD39 polypeptides.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TSTQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVECRVKGPGISKFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QKVNEIGIYLIDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERS
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Pred. No. 1.5e-232;
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                                      Marcus AJ;
                                                                                                                                                                                                       Claim 6, Page 116-118; 118pp; English.
(CORR ) CORNELL RES FOUND INC
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99.8%;
                                    Gayle RB,
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                                                                       WPI; 2000-339518/29.
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 463 AA;
                                    Maliszewski
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The present sequence is the fusion protein construct, pII2ITrim1. This construct comprises of the leader peptide from human interleukin 2 (hII2) and soluble CD39 (solCD39) protein region, having apyrase activity. The two regions are joined by an intervaning has residue. Soluble CD39 is constructed by removing the N- and C-terminal transmembrane domains. It retains the capacity to metabolise ATP and ADP at relevant concentrations and the ability to block and reverse ADP-induced platelet activation and recruitment, including platelet aggregation. Soluble CD39 polypeptides recruitment, including platelet aggregation. Soluble CD39 polypeptides resustable angina, stroke, myocardial infarction, coronary artery disease or injury, embolism, atherosclerosis, peripheral vascular occlusion, preciampsia, platelet associated ischaemic disorders including coronary, peripheral and cerebral artery thrombosis, intracardiac and venous thrombosis, coagulopathy, deep venous thrombosis (DVT), pulmonary embolism (PR) and transient ischaemic attack. Soluble CD39 is also useful coronary and create and reansient eschaemic attack. Soluble CD39 is also useful
                                                                   Soluble CD39; solCD39; human; apyrase activity; platelet activation; unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; preclampsia; embolism; platelet-associated ischaemic disorder; thrombotic disorder; reocclusion; coagulopathy; deep venous thrombosis; bull monary embolism; pE; thrombus formation; occlusion; restenosis; angiogenesis; antianginal; cerebroprotective; antiarteriosclerotic; anticoagulant; cardiant; vasotropic; thrombolytic; inhibitor; interleukin 2; IL2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New soluble CD39 polypeptides having apyrase activity, useful for inhibiting angiogenesis and treating unstable angina, myocardial infarction, stroke, coronary artery disease or injury.
                                                                                                                                                                                                                                                                                                                                                              from human interleukin 2 (hIL2)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 2353; DB 3; Length 464;
Pred. No: 1.5e-232;
1; Mismatches 0; Indels 0
                                                                                                                                                                                                                                                                                                                                          /label= Leader peptide
foote= "Derived from human interleukin 2
24.025
/note= "Cleavage site of leader sequence"
                                                                                                                                                                                                                                                                                                                                                                                                                    26. .464
/note= "Human soluble CD39 protein"
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                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                            1. .24
/label= Leader
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98US-0107466P.
99US-0149010P.
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Best Local Similarity 99.8
Matches 440; Conservative
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06-NOV-1998;
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16 SSTQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFV

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LNLTNMIPAEQPLSTPLSHST 456

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AAY70922 standard; protein; 464 AA

AAY70922;

RESULT 15
AAY70922
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136 LSNYPPDPQGARIITQQBEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLG 195
                                            QKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERS 135
                                                                                                                  GASTQVTFVPONQTIESPDNALOFRLYGKDYNVYTHSFLCYGKDOALWOKLAKDIQVASN 255
                                                                                                                               204 GASTQVTFVPQNQTIESPDNALQFRLYGKDXNVYTHSFLCYGKDQALMQKLAKDIQVASN 263
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1: /cgn2 6/ptodata/l/pubpaa/US07 PUBCOMB.pep:*
2: /cgn2 6/ptodata/l/pubpaa/US07 PUBCOMB.pep:*
3: /cgn2 6/ptodata/l/pubpaa/US06 NEW PUB.pep:*
4: /cgn2 6/ptodata/l/pubpaa/US06 PUBCOMB.pep:*
5: /cgn2 6/ptodata/l/pubpaa/US07 PUBCOMB.pep:*
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7: /cgn2 6/ptodata/l/pubpaa/US08 NEW PUB.pep:*
6: /cgn2 6/ptodata/l/pubpaa/US08 PUBCOMB.pep:*
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6: /cgn2 6/ptodata/l/pubpaa/US08 PUBCOMB.pep:*
7: /cgn2 6/ptodata/l/pubpaa/US09 PUBCOMB.pep:*
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12: /cgn2 6/ptodata/l/pubpaa/US09 NEW PUB.pep:*
13: /cgn2 6/ptodata/l/pubpaa/US108 PUBCOMB.pep:*
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15: /cgn2 6/ptodata/l/pubpaa/US10P-PUBCOMB.pep:*
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                                     GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
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                                                                                                                                                                                                     OM protein - protein search, using sw model
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Maximum DB seq length: 2000000000
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Perfect score:
Sequence:
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                                                                                                                                                                                                                                                                                Run on:
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

					SUMMARIES	
Result No.	Score	% Query Match	% Query Match Length DB	DB	ΩI	Description
	2440	100.0		6	US-09-835-147-3	Sequence 3, Appli
8	2373	97.3	476	σ	US-09-835-147-4	Sequence 4, Appli
m	2356	9.96		σ	US-09-835-147-6	9
4	2356	96.6		0	US-09-835-147-29	29,
ß	2356	96.6		σ	US-09-835-147-28	Sequence 28, Appl
ø	2356	9.96		Φ	US-09-835-147-8	Sequence 8, Appli
7	2353	96.4		Q	US-09-835-147-30	Sequence 30, Appl
8	2353	96.4		σ	US-09-835-147-27	Sequence 27, Appl
6	2348	96.2		σ	US-09-374-586-2	
10	2348	96.2		σ	US-09-835-147-26	Sequence 26, Appl
11	2348	96.2		13	US-10-092-063-38	Sequence 38, Appl
12	2348	96.2		Φ	US-09-835-147-2	Sequence 2, Appli
13	2348	96.2		σ	US-09-374-586-1	Sequence 1, Appli

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Gaps

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) OTHER INFORMATION: Description of Artificial Sequence: Fusion ; OTHER INFORMATION: construct of human CD39 US-09-835-147-3

Query Match 100.0%; Score 2440; DB 9; Length 476; Best Local Similarity 100.0%; Pred. No. 2.7e-209; Matches 456; Conservative 0; Mismatches 0; Indels 0

20 907.5 37.2 458 14 US.10.175-737-496 Sequence 496, App 20 907.5 37.2 458 14 US.10.176-431-496 Sequence 496, App 22 907.5 37.2 458 14 US.10.176-431-496 Sequence 496, App 22 907.5 37.2 458 14 US.10.176-431-496 Sequence 496, App 22 907.5 37.2 458 14 US.10.176-431-496 Sequence 496, App 22 907.5 37.2 458 14 US.10.176-431-496 Sequence 496, App 22 907.5 37.2 458 14 US.10.1776-432-496 Sequence 496, App 22 907.5 37.2 458 14 US.10.1776-432-496 Sequence 496, App 30 907.5 37.2 458 14 US.10.1776-432-496 Sequence 496, App 31 907.5 37.2 458 14 US.10.1776-737-496 Sequence 496, App 32 907.5 37.2 458 14 US.10.1776-737-496 Sequence 496, App 32 907.5 37.2 458 14 US.10.1776-737-496 Sequence 496, App 32 907.5 37.2 458 14 US.10.1776-737-496 Sequence 496, App 32 907.5 37.2 458 14 US.10.1776-737-496 Sequence 496, App 32 907.5 37.2 458 14 US.10.1776-737-496 Sequence 496, App 32 907.5 37.2 458 14 US.10.1776-737-496 Sequence 496, App 32 907.5 37.2 458 14 US.10.1776-737-496 Sequence 496, App 32 907.5 37.2 458 14 US.10.1776-737-496 Sequence 496, App 32 907.5 37.2 458 14 US.10.1776-737-496 Sequence 496, App 32 907.5 37.2 458 14 US.10.1776-743-96 Sequence 496, App 32 907.5 37.2 458 14 US.10.1776-743-96 Sequence 496, App 32 907.5 37.2 458 14 US.10.1776-743-96 Sequence 496, App 42 907.5 37.2 458 14 US.10.1776-488-496 Sequence 496, App 42 907.5 37.2 458 14 US.10.1776-488-496 Sequence 496, App 42 907.5 37.2 458 14 US.10.1776-488-496 Sequence 496, App 42 907.5 37.2 458 14 US.10.1776-488-496 Sequence 496, App 42 907.5 37.2 458 14 US.10.176-747-496 Sequence 496, App 42 907.5 37.2 458 14 US.10.176-747-496 Sequence 496, App 42 907.5 37.2 458 14 US.10.176-748-496 Sequence 496, App 42 907.5 37.2 458 14 US.10.176-748-496 Sequence 496, App 42 907.5 37.2 458 14 US.10.176-749-496 Sequence 496, App 42 907.5 37.2 458 14 US.10.176-749-496 Sequence 496, App 42 907.5 37.2 458 14 US.10.176-749-496 Sequence 496, App 42 907.5 37.2 458 14 US.10.176-749-496 Sequence 496, App 42 907.5 37.2 458 14 US.10.176-496 Sequence 496, App 42 907.5 37.2 458 14 US.10.176-496 Seq

80

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300

360

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261 ALWQKLAKDIQVASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIG 320
                                                                                                                                                                                                                                                                                                                                                                                                                                                           361 KVTEMMKKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFI 420
                                                                                   81 VEECRVKGPGISKFVQKVNEIGIYLIDCMERAREVIPRSQHQETPVYLGATAGMRLLRME
                                                                                                                                                                         141 SEELADRVLDVVERSLSNYPFDFQGARIITGQEBGAYGWITINYLLGKFSQKTRWFSIVP
                                                                                                                                                                                                                                                       201 YETNNOETFGALDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQ
                                                                                                                                                                                                                                                                                                                                                                                                        321 NYQQCHQSILELFNTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVWKFLNLTSEKVSQE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEELADRVLDVVERSLSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVP
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                                                                                                                                                                                                                                                                                                                                                                              NYQQCHQSILELFNTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQE
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US-09-835-147-6
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                                                                                 120
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                                                                                                                                                                                                                                                               201 YETNNQETFGALDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQ 260
                                                                                                                                                                                                                                                                                                                    241 ALWOKLAKDIQVASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRPEMTLPFQQFEIQGIG 300
                                                                                                                                                                                                                                                                                                                                           ALWQKLAKDIQVASNEILKBPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIG 320
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GENERAL INFORMATION:
APPLICANT: Maliszewski, Charles R.
APPLICANT: Gayle III, Richard B.
APPLICANT: Gayle III, Richard B.
APPLICANT: Gayle III, Richard B.
APPLICANT: Gimpel, Steven D.
ITILE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE REFERENCE: 2879-US
CURRENT APPLICATION NUMBER: US/09/835,147
CURRENT FILING DATE: 2001-04-13
FRIOR PAPLICATION NUMBER: US 60/104,585
PRIOR PAPLICATION NUMBER: US 60/107,466
PRIOR FILING DATE: 1999-10-13
PRIOR PLICATION NUMBER: US 60/149,010
PRIOR PLICATION NUMBER: US 60/149,010
PRIOR PLICATION NUMBER: PCT/US99/22955
PRIOR FILING DATE: 1999-08-13
PRIOR FILING DATE: 1999-10-13
NUMBER OF SEQ ID NOS: 31
SOFTWARE: PATENTIN Ver. 2.0
SEQ ID NO 4
LENGTH: 476
                                                                                                        21 VSHRNQQTWPEGIFLSSTQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQ
                                                                                 VEECRVKGPGISKFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRME
                                                                                                                                                             SEELADRVLDVVERSLSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVP
                                                                                                                                                                                                                                           YETINQETFGALDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              KVTEMMKKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFI
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         INFORMATION: Any amino acid, preferably Cys or Ser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OTHER INFORMATION: Description of Artificial Sequence: OTHER INFORMATION: construct of human CD39
NAME/KEY: VARIANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GKIQGSDAGWTLGYMLNLTNMIPAEQPLSTPLSHST 456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                441 GKIQGSDAGWTLGYMLNLTNMIPAEQPLSTPLSHST 476
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Patent No. US20020002277A1
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Best Local Similarity 97.61
Matches 445; Conservative
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76 QKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERS 135
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Sequence 6, Application US/09835147

Sequence 6, Application US/09835147

GENERAL INFORMATION:

APPLICANT: Maliszewski, Charles R.

APPLICANT: Bayle III, Richard B.

APPLICANT: Gayle III, Richard B.

APPLICANT: Gimpel, Steven D.

TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE REFERENCE: 2879-US

CURRENT APPLICATION NUMBER: US/09/835,147

CURRENT APPLICATION NUMBER: US 60/104,585

PRIOR APPLICATION NUMBER: US 60/104,666

PRIOR FILING DATE: 1998-10-16

PRIOR FILING DATE: 1998-10-16

PRIOR FILING DATE: 1999-08-13

PRIOR FILING DATE: 1999-08-13

PRIOR PLIJOR DATE: 1999-08-13

PRIOR PLIJOR DATE: 1999-10-13

PRIOR PLIJOR DATE: 1999-10-13

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PRIOR PLIJOR DATE: 1999-10-13
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 96.6%; Score 2356; DB 9; I
Best Local Similarity 100.0%; Pred. No. 8.1e-202;
Matches 441; Conservative 0; Mismatches 0;
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  256 BILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFBIQGIGNYQQCHQSILELFVT 315
                                                                                                                                                                                                                                                                              333 SYCPYSQCAFNGIPLPPPLQGDFGAFSAFYFVWKFLNLTSEKVSQEKVTEMMKKFCAQPWE 392
                                                                                                                                                                                                                                                                                                                                        BIKTSYAGVKEKYLSEYCFSGTYILSLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYM 435
                                                                                                                                                                                                                                                                                                                                                                    393 BIKTSYAGVKEKYLSEYCFSGTYILSLLLOGYHPTADSWEHIHFIGKIQGSDAGWTLGYM 452
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Maliszewski, Charles R.
APPLICANT: Maliszewski, Charles R.
APPLICANT: Bayle III, Richard B.
APPLICANT: Brice, Virginia L.
APPLICANT: Gayle III, Richard B.
APPLICANT: Gimpel, Steven D.
ITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE REPRENCE: 2879-US
CURRENT APPLICATION NUMBER: US 60/104,585
PRIOR APPLICATION NUMBER: US 60/104,585
PRIOR APPLICATION NUMBER: US 60/107,466
PRIOR PLING DATE: 1998-11-06
PRIOR PLING DATE: 1998-11-06
PRIOR PLING DATE: 1999-08-13
PRIOR PLING DATE: 1999-08-13
PRIOR PLING DATE: 1999-08-13
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                                                                                             94 QKVNBIGIYLTDCMBRAREVIPRSQHQETPVYLGATAGMRLLRMBSBELADRVLDVVERS
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                                                                        GASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASN
                                                                                                                                                                                          273 BILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFBIQGIGNYQQCHQSILELFNT
                                                                                                                                                                                                                                                    SYCPYSOCAFIGIFLPPLOGDFGAFSAFYFVMKFLNLTSEKVSOEKVTEMMKKFCAOPWE
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96.6%; Score 2356; DB 9; Length 474;
Best Local Similarity 100.0%; Pred. No. 8.6e-202;
Matches 441; Conservative 0; Mismatches 0; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                   LNLTNMIPAEOPLSTPLSHST 456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           453 LNLTNMIPAEQPLSTPLSHST 473
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OTHER INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                  SYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWE 373
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Sequence 29, Application US/09835147

Batent No. US2002002277A1

GENERAL INFORMATION:

APPLICANT: Maliacewski, Charles R.

APPLICANT: Gimpel. Steven D.

TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE REFERENCE: 2879-US

CURRENT APPLICATION WUMBER: US/09/835,147

CURRENT FILING DATE: 2001-04-13

PRIOR FILING DATE: 1998-10-16

PRIOR APPLICATION NUMBER: US 60/104,585

PRIOR APPLICATION NUMBER: US 60/149,010

PRIOR APPLICATION NUMBER: US 60/149,010

PRIOR FILING DATE: 1999-10-13

NUMBER OF SEQ ID NOS: 31

SEQ ID NO 29

LENGTH: 473
LSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLG
                                                                                               LSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLG
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OTHER INFORMATION: construct of human CD39
US-09-835-147-29
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76 OKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERS 135
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SYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWE 375
                                                                                    EIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYM 435
                                                                                                                                                                   263 EILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPPQQFEIQGIGNYQQCHQSILELFNT 322
                                                                                                                                                                                                                                                                                                                                                                Sequence 30, Application US/09835147

Sequence 30, Application US/09835147

Sequence 30, Application US/09835147

SERICAL INFORMATION:

APPLICANT: Maliszewski, Charles R.

APPLICANT: Gayle III, Richard B.

APPLICANT: Gayle III, Richard B.

APPLICANT: Gayle III, Richard B.

APPLICANT: Gayle III, Richard B.

TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE REFERENCE: 2979-US

CURRENT APPLICATION NUMBER: US/09/835,147

CURRENT FILING DATE: 1998-10-16

PRIOR FILING DATE: 1998-11-06

PRIOR FILING DATE: 1998-10-16

PRIOR FILING DATE: 1999-08-13

PRIOR FILING DATE: 1999-08-13

PRIOR FILING DATE: 1999-10-13

PRIOR FILING DATE: 1999-10-13

PRIOR FILING DATE: 1999-10-13

PRIOR FILING DATE: 1999-10-13

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PRIOR FILING DATE: 1999-10-13
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Pred. No. 1.5e-201;
1; Mismatches 0;
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ORGANISM: Artificial Sequence
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Best Local Similarity 99.8%;
Matches 440; Conservative
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  214 GASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASN 273
                                                                                    274 BILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPPQQFBIQGIGNYQQCHQSILELFNT 333
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                                                                                                                                                                            EIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYM 435
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Sequence 8, Application US/09835147

Sequence 9, Application US/09835147

GENERAL INFORMATION:

APPLICANT: Maliazeweki, Charles R.

APPLICANT: Gayle III, Richard B.

APPLICANT: Price, Virginia L.

APPLICANT: Gimpel, Steven D.

TITLE REFERENCE: 2879-US

CURRENT APPLICATION NUMBER: US/09/835,147

CURRENT PILING DATE: 2001-04-13

FRIOR APPLICATION NUMBER: US 60/104,585

PRIOR FILING DATE: 1999-10-16

PRIOR FILING DATE: 1999-10-16

PRIOR FILING DATE: 1999-08-13

FRIOR FILING DATE: 1999-08-13

FRIOR FILING DATE: 1999-08-13

FRIOR FILING DATE: 1999-10-13

NUMBER OF SEQ ID NOS: 31

SOFTARE: PATENTIN Ver. 2.0

SEQ ID NO 8

LENGTH: 478
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Best Local Similarity 100.0%; Pred. No. 8.7e-202;
Matches 441; Conservative 0; Mismatches 0;
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  384 BIXTSYAGVKEKYLSEYCFSGTYILLIGGYHFTADSWEHIHFIGKIQGSDAGWTLGYM 443
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      138 NYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGA 197
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181 STQVIFVPQQQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     301 CPYSOCAFNGIFLPPLOGDFGAFSAFYFVMKFLNLTSEKVSOEKVTEMMKKFCAOPWEEI
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                                                                                                                                                                                                                    Sequence 2, Application US/09374586
Patent No. US20020138858A1
GENERAL INFORMATION:
APPLICANT: PINSKy, David J.
TITLE OF INVENTION: CD39/ECTO-ADPASE AS A TREATMENT FOR THROMBOTIC AND TITLE OF INVENTION: 1SCHEMIC DISORDERS
FILE REFERENCE: 0575/59167
CURRENT APPLICATION NUMBER: US/09/374,586
CURRENT PILING DATE: 1999-08-13
NUMBER OF SEQ ID NOS: 2
SOFTWARE: Patentin Ver. 2.1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 439;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              96.2%; Score 2348; DB 9;
100.0%; Pred. No. 4e-201;
tive 0; Mismatches 0;
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US-09-835-147-26
US-09-835-147-26
Sequence 26, Application US/09835147
Sequence 10: US20020002277A1
GENERAL INFORMATION:
APPLICANT: Maliszewki, Charles R.
APPLICANT: Gayle III, Richard B.
APPLICANT: Price, Virginia L.
APPLICANT: Gimpel, Steven D.
                                                                                               444 LNLTNMIPAEQPLSTPLSHST 464
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                                                                      436 LNLTNMIPAEOPLSTPLSHST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches 439; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH: 439
TYPE: PRT
ORGANISM: Homo sapiens
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Best Local Similarity
                                                                                                                                                                                   RESULT 9
US-09-374-586-2
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                                                                                                                                                                                                                                                                                                          Sequence 27, Application US/09835147

Sequence 27, Application US/09835147

Patent No. US200200227741

GENERAL INPORALTION:

APPLICANT: Maliszewski, Charles R.

APPLICANT: Gayle III, Richard B.

APPLICANT: Gimpel, Steven D.

TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FIER REPERBENGE: 2879-04.

FIER REPERBERGE: 2879-04.

FIER REPERBERGE: 2879-04.

FRIOR FILING DATE: 2991-0-16

PRIOR PLILING DATE: 1999-10-16

PRIOR PLILING DATE: 1999-11-06

PRIOR PLILING DATE: 1999-0-11.

PRIOR PLILOGATION NUMBER: US 60/149,010

PRIOR PLILOGATION NUMBER: US 60/149,010

PRIOR PLILOGATION NUMBER: CT/US99/22955

PRIOR PLILOGATION NUMBER: CT/US99/22955

PRIOR PLILOGATION NUMBER: 200
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  OTHER INFORMATION: Description of Artificial Sequence:
OTHER INFORMATION: construct of human CD39
US-09-835-147-27
                                                                                                                                                          436 LNLTNMIPAEOPLSTPLSHST 456
                                                                                                                                                                                   TYPE: PRT ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                               US-09-835-147-27
                                                                      376
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Sequence 2, Application US/09835147

Patent NO. US202002277A1

GENERAL INFORMATION:

APPLICANT: Maliszewski, Charles R.

APPLICANT: Gayle III, Richard B.

APPLICANT: Price, Virginia L.

APPLICANT: Price, Virginia L.

TILE OF INVENTION: Inhibitors of Platelet Activation and Recruitment

FILE REFERENCE: 2879-US

CURRENT APPLICATION NUMBER: US/09/835,147

CURRENT FILING DATE: 2001-04-13

PRIOR APPLICATION NUMBER: US 60/104,585

PRIOR PLING DATE: 1998-10-16

PRIOR APPLICATION NUMBER: US 60/107,466
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEEI
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    96.2%; Score 2348; DB 13;
100.0%; Pred. No. 4.8e-201;
tive 0; Mismatches 0;
          APPLICATION NUMBER: PCT/US99/16180
     PRIOR APPLICATION NUMBER: PCT/US99/1618
PRIOR PILING DATE: 1999-07-16
PRIOR PELLING DATE: 1999-07-16
PRIOR PELLING DATE: 1999-07-19
PRIOR PILING DATE: 1999-03-19
PRIOR PILING DATE: 1999-03-19
PRIOR PILING DATE: 1999-03-19
PRIOR PILING DATE: 1999-03-04
PRIOR PILING DATE: 1999-02-04
PRIOR PILING DATE: 1999-02-04
PRIOR PILING DATE: 1998-07-16
PRIOR PILING DATE: 1998-07-16
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Best Local Similarity 100.0
Matches 439; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: PRT
CRGANISM: Homo sapiens
US-10-092-063-38
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Publication No. US20020173005A1
GENERAL INFORMATION:
APPLICANT: Ford, John
APPLICANT: Mulero, Julio
FILLE OF INVENTION: METHODS AND MATERIALS RELATING TO NOVEL CD39-LIKE POLYPEPTIDES
FILLE REPERENCE: 28110/35908
CURRENT FILLING DATE: 2002-03-05
PRIOR PILING DATE: 2002-03-05
PRIOR FILLING DATE: 2002-01-31
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TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment;
PILE REFERENCE: 2879-US
CURRENT APPLICATION NUMBER: US/09/835,147
CURRENT FILING DATE: 2001-04-13
PRIOR PELICATION NUMBER: US 60/104,585
PRIOR PELICATION NUMBER: US 60/107,466
PRIOR PELING DATE: 1998-10-16
PRIOR PLING DATE: 1998-11-06
PRIOR PLING DATE: 1999-08-13
PRIOR PLING DATE: 1999-08-13
PRIOR PLING DATE: 1999-10-13
PRIOR PLING DATE: 1999-10-13
NUMBER OF SEQ ID NOS: 31
SOFTWARE: PatentIN Ver. 2.0
SEQ ID NO 26
LENGTH: 487
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; OTHER INFORMATION: Description of Artificial Sequence; ; OTHER INFORMATION: construct of human CD39 US-09-835-147-26
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Matches 439; Conservative 0; Mismatches
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ORGANISM: Artificial Sequence
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US-10-092-063-38
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Length 502; Indels

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Sequence 1, Application US/09781796B
; Sequence 1, Application WG0094A1
; GENERAL INFORMATION;
APPLICANT: BEAUDOIN, Adrien R.
; APPLICANT: BACH, Fritz H.
; APPLICANT: BACH, Fritz H.
; APPLICANT: BACH, Fritz H.
; APPLICANT: BACH, Fritz H.
; APPLICANT: BACH, Fritz H.
; APPLICANT: BACH, Fritz H.
; APPLICANT: BACH, Fritz H.
; APPLICANT: BACH, Fritz H.
; APPLICANT: BACH, Fritz H.
; TITLE OF INVENTION: THEREOF AND PROCESS OF PRODUCING THEREOF BY RECOMBINANT:
; TITLE OF INVENTION: TECHNOLOGY;
; TITLE OF INVENTION: TECHNOLOGY;
; TITLE OF INVENTION OF TECHNOLOGY;
; FILE REFERENCE: 92033 90019
; CURRENT APPLICATION NUMBER: 08/419,204
; PRIOR APPLICATION NUMBER: 08/419,204
; PRIOR APPLICATION NUMBER: 08/930,921
; PRIOR APPLICATION NUMBER: 08/930,921
; PRIOR PLING DATE: 1998-02-01
; WUMBER OF SEQ ID NOS: 8
; SOFTWARE: PATENTIN VEY: 2.1
; SEQ ID NOS: 8
; SEQ ID NOS: 8
; SEQ ID NOS: 8
; SEDTWARE: PATENTIN VEY: 2.1
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                                                                                                              STQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEI 257
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  38 TQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEGCRVKGPGISKFVQK
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100.0%; Pred. No. 4.9e-201;
tive 0; Mismatches 0;
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Best Local Similarity 100.4
Matches 439; Conservative
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CRGANISM: Homo sapiens
US-09-781-7968-1
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US-09-781-796B-1
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Patent No. US20020138858A1
GENERAL INFORMATION:
GENERAL INFORMATION:
TITLE OF INVENTION: CD39/ECTO-ADPASE AS A TREATMENT FOR THROMBOTIC AND TITLE OF INVENTION: ISCHEMIC DISORDERS
FILE REPERENCE: 0575/59167
CURRENT APPLICATION NUMBER: US/09/374,586
CURRENT PILING DATE: 1999-08-13
NUMBER OF SEQ ID NOS: 2
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 1
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100.0%; Pred. No. 4.9e-201;
/ative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                         Length 510;
                                                                                                                                                                                                                                                                                                                               0; Indels
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Best Local Similarity 100.0%; Pred. No. 4.9e-201;
Matches 439; Conservative 0; Mismatches 0;
PRIOR FILING DATE: 1998-11-06
PRIOR APPLICATION NUMBER: US 60/149,010
PRIOR FILING DATE: 1999-08-13
PRIOR PAPLICATION NUMBER: PCT/US99/22955
PRIOR PILING DATE: 1999-10-13
NUMBER OF SEQ ID NOS: 31
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 2
LENGTH: 510
TYPE: PRT
TYPE: PRT
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Best Local Similarity 100.
Matches 439; Conservative
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US-09-374-586-1
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TYPE: PRT
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US-10-646-308-30

US-10-646-308-30

Sequence 30, Application US/10646308

Publication No. US2004013692A1

GENERAL INFORMATION:
APPLICANT: BURTON, Paul B. J.
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR TREATING CARDIOVASCULAR DISEASE
FILE REFERENCE: 343-8

CURRENT FILING DATE: 2003-08-21

PRIOR PPLICATION NUMBER: --to be assigned--
PRIOR FILING DATE: 2003-08-12

PRIOR FILING DATE: 2003-08-12

PRIOR FILING DATE: 2003-08-12

PRIOR SEQ ID NOS: 36

SOFTWARE: Patentin version 3.2

LENGTH: 510

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        Search completed: March 7, 2005, 14:12:37

        Job time: 54.496 secs
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Copyright (c) 1993 - 2005 Compugen Ltd
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APPLICANT: Ford, John
APPLICANT: Ford, John
APPLICANT: Walero, Julio
APPLICANT: Walero, Julio
APPLICANT: Walero, Julio
APPLICANT: Yeung, George
TITLE OF INVENTION: Methods and Materials Relating to CD39-Like
TITLE OF INVENTION: Polypeptides
TITLE OF INVENTION: Polypeptides
TITLE OF INVENTION: Polypeptides
TITLE OF INVENTION: Polypeptides
TITLE OF INVENTION: Polypeptides
TITLE OF INVENTION: Polypeptides
TILLE APPLICATION NUMBER: US/09/557,800C
CURRENT FILING DATE: 2000-01-11
PRIOR PILING DATE: 1999-01-16
PRIOR PELICATION NUMBER: POT/US99/16180
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PRIOR FILING DATE: 1999-07-07-09
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US-10-107-576-14
US-09-905-732B-14
US-09-905-732B-14
US-09-905-732B-15
US-09-905-744B-15
US-09-905-744B-15
US-10-107-576-15
US-09-905-743B-15
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GENERAL INFORMATION:
APPLICANT: BEAUDOLIN, Adrien R.
APPLICANT: BEAUDOLIN, Jean
TITLE OF INVENTION: ATP-DIPHOSPHOHYDROLASES, PROCESS OF PURIFICATION
TITLE OF INVENTION: THEREOF AND PROCESS OF PRODUCING THEREOF BY RECOMBINANT
TITLE OF INVENTION: TECHNOLOGY
FILE REFERENCE: ATP-DIPHOSPHOHYDROLASES-BEAUDOIN
CURRENT APPLICATION NUMBER: US/08/930,921B
CURRENT FILING DATE: 1998-01-02
EARLIER APPLICATION NUMBER: PCT/CA96/00223
EARLIER PILING DATE: 1996-04-10
NUMBER: OF SEQ ID NOS: 8
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              338 CPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEEI
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; OTHER INFORMATION: Description of Unknown Organism: unknown US-08-930-921-1
                                                                                                                                                                                                                                ; Sequence 1, Application US/08930921B
; Patent No. 6287837
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SEQ ID NO 1
LENGTH: 510
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                                                                                                                                                                                                      RESULT 3
US-08-930-921-1
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US-09-370-625A-38
US-09-370-625A-38
Sequence 38, Application US/09370625A
Fatent No. 6600032
GENERAL INFORMATION:
FATENT FORM JOHN
APPLICANT: PORJ JULIO
TITLE OF INVENTION: METHODS AND MATERIALS RELATING TO NOVEL CD39-LIKE POLYPEPTIDES
FILE REFERENCE: 28110/35908
FURRENT FILING DATE: 1999-08-09
FRIOR PELICATION NUMBER: US/09/370,625A
CURRENT FILING DATE: 1999-08-09
FRIOR FILING DATE: 1999-07-06
FRIOR FILING DATE: 1999-07-09
FRIOR FILING DATE: 1999-07-09
FRIOR FILING DATE: 1999-03-19
NUMBER OF SEQ ID NOS: 39
SOFTWARE: PATENTIN VOR: 2.0
SEQ ID NO 38
LENGTH: 502
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                                                                CPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQFWEEI 377
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                                                                                                                                                                                                                                   KTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLN 437
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STQVTFVPQNQT1ESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEI
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Best Local Similarity 100.
Matches 439; Conservative
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ORGANISM: Homo sapiens
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US-09-370-625A-38.
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                                                               APPLICANT: BEAUDOIN, Adrien R.
APPLICANT: SEVIGNY, Jean
APPLICANT: BEAUDOIN, Jean
APPLICANT: BACH, FRIEZ H.
APPLICANT: BACH, FRIEZ H.
APPLICANT: BACH, FRIEZ H.
APPLICANT: BACH, FRIEZ H.
APPLICANT: BACH, FRIEZ H.
APPLICANT: BACH, FRIEZ H.
APPLICANT: BACHOLOGY
TITLE OF INVENTION: THEREOF AND PROCESS OF PRODUCING THEREOF BY RECOMBINANT
TITLE OF INVENTION: TECHNOLOGY
FILE REFERENCE: 92033.90019
CURRENT PILING DATE: 2001-02-12
PRIOR PELICATION NUMBER: 08/09/781,796C
CURRENT PILING DATE: 1995-04-10
PRIOR PILING DATE: 1995-04-10
PRIOR PILING DATE: 1996-02-01
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Sequence 1, Application US/09781796C
Patent No. 6800284
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Best Local Similarity 100.
Matches 439; Conservative
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ORGANISM: Homo sapiens
                                               GENERAL INFORMATION:
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JOS-09-30-30-30-44

Sequence 4, Application US/09908510A

Fatent No. 6759214

GENERAL INFORMATION:

APPLICANT: Chadwick, Brian Paul

APPLICANT: Chadwick, Brian Paul

APPLICANT: Chadwick, Brian Paul

APPLICANT: Chadwick, Brian Paul

APPLICANT: Chadwick, Brian Paul

APPLICANT: Chadwick, Brian Paul

APPLICANT: Chadwick, Brian Paul

APPLICANT: Chadwick, Brian Paul

APPLICANT: Chadwick, Brian Paul

APPLICANT: Frischauf, Anna Maria

ITILE OF INVENTION: WINBER: US/09/908,510A

CURRENT APPLICATION NUMBER: US/09/40,639

PRIOR FILING DATE: 1999-01-29

NUMBER OF SEQ ID NOS: 32

SOFTWARE: Patentin version 3.1

SEQ ID NO 4

LENGTH: 529

ILENGTH: 529

TYPE: PRT

ORGANISM: Homo Sapiens

US-09-908-510A-4
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                        APPLICANT: Frischauf, Anna-Maria
TITLE OF INVENTION: METHODS AND COMPOSITIONS RELATING TO CD39-LIKE
TITLE OF INVENTION: POLYPEPTIDES AND NUCLEIC ACIDS
TITLE OF INVENTION: POLYPEPTIDES AND NUCLEIC ACIDS
FILE REFERENCE: 9598-066
CURRENT APPLICATION NUMBER: US/09/240,639
NUMBER OF SEQ ID NOS: 29
SOFTWARE: PATENTIN VET. 2.0
SEQ ID NO 4
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APPLICANT: Chadwick, Brian Paul
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OPPDFRGAQIISGQEEGVYGMITANYLMGNFLEKNLWHWWV--HPHGVETTGALDLGGAS
                                                   TQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVA-SNEI
                                                                      285 LINPCYPRDYSISFTWGHVFDSLCTVDQRPESYNPNDVITFEGTGDPSLCKEKVASIFDF
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                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 4, Application US/10107660
; Sequence 4, Application US/10107660
; Patent No. 6780377
; GENERAL INFORMATION;
; APPLICANT: Chadwick, Brian Paul
; APPLICANT: Frischauf, Anna-Maria
; TITLE OF INVENTION: WETHODS AND COMPOSITIONS RELATING TO CD39-LIKE
; TITLE OF INVENTION: POLYPEPTIDES AND NUCLEIC ACIDS
; TITLE OF INVENTION: POLYPEPTIDES AND NUCLEIC ACIDS
; CURRENT APPLICATION NUMBER: US/10/107,660
; CURRENT PILING DATE: 2002-03-27
; PRIOR PAPLICATION NUMBER: US/09/240,639
; NUMBER OF SEQ ID NOS: 29
; NUMBER OF SEQ ID NOS: 29
; SOFTWARE: PATENTIN Ver. 2.0
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llarity 41.5%; Pred. No. 1.3e-88;
Conservative 79; Mismatches 168;
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464 MLSLTNQIPAESPL 477
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Best Local Similarity
Matches 180; Conserv
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TYPE: PRT
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Sequence 4, Application US/09905744B
Patent No. 6780410
GENERAL INFORMATION:
GENERAL INFORMATION:
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Chadwick, Brian Paul
APPLICANT: Chadwick, Brian Paul
APPLICANT: Frischauf, Anna Maria
TITLE OF INVENTION: METHODS AND COMPOSITIONS RELATING TO CD39-LIKE POLYPEPTIDES AND
TITLE OF INVENTION: METHODS AND COMPOSITION NUMBER: US/09/905,744B
CURRENT APPLICATION NUMBER: US/09/905,744B
PRIOR APPLICATION NUMBER: 09/240,639
PRIOR FILING DATE: 1999-01-29
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                             37.3%; Score 910.5; DB 4;
41.5%; Pred. No. 1.3e-88;
tive 79; Mismatches 168;
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SEQ ID NO 4
LENGTH: 529
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464 MLSCTNQIPAESPL 477
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Matches 180; (
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US-09-905-744B-4
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APPLICANT: Frischauf, Anna Maria
TITLE OF INVENTION: METHODS AND COMPOSITIONS RELATING TO CD39-LIKE POLYPEPTIDES AND
FILE REPRENCE: 28110/36120B
CURRENT APPLICATION NUMBER: US/09/905,732B
CURRENT FILING DATE: 2001-07-13
PRIOR APPLICATION NUMBER: 09/240,639
PRIOR FILING DATE: 1999-01-29
NUMBER OF SEQ ID NOS: 32
SOFFWARE: PatentIn version 3.1
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Sequence 4, Application US/09923304;
Patent No. 6797471;
GENERAL INFORMATION:
APPLICANT: KATZ, RUTH
APPLICANT: JIANG, FENG
TITLE OF INVENTION: DETECTION AND DIAGNOSIS OF SMOKING RELATED CANCERS;
FILE REFERENCE: UTSC: 658US
CURRENT FILING DATE: 2001-08-06;
NUMBER OF SEQ ID NOS: 11
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 4
LENGTH: 229
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ORGANISM: Homo Sapiens
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; ORGANISM: Homo sapiens
US-09-923-304-4
GENERAL INFORMATION:
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APPLICANT: Chadwick, Brian Paul
APPLICANT: Chadwick, Brian Paul
APPLICANT: Chadwick, Brian Paul
APPLICANT: Frischauf, Anna Maria
TITLE OF INVENTION: METHODS AND COMPOSITIONS RELATING TO CD39-LIKE POLYPEPTIDES AND
TITLE OF INVENTION: ACIDS
FILE REFERENCE: 28110/36120H
CURRENT APPLICATION NUMBER: 108/10/107,576
CURRENT APPLICATION NUMBER: 09/240,639
PRIOR PILING DATE: 1999-01-29
NUMBER: OF SEQ ID NOS: 32
SOFTWARE: Patentin version 3.1
SEQ ID NO 4
                                   79 NEIGIYLTDCMERAREVIPRSOHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSN 138
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; Patent No. 6787328
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US-10-107-576-4
; Sequence 4, Application US/10107576
; Patent No. 6783559
                                                                                   MLNLTNMIPAEOPL 448
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464 MLSLTNQIPAESPL 477
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; ORGANISM: Howo Sapiens
US-10-107-576-4
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COMPOSITIONS RELATING TO CD39-LIKE POLYPEPTIDES AND
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                                         TOVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVA-SNEI
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41.5%; Pred. No. 1.3e-88;
iive 79; Mismatches 168;
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; Sequence 4, Application US/09905743B
; Patent NO. 6838423
; GENERAL INFORMATION:
   APPLICANT: Chadwick, Brian Paul
   APPLICANT: Frischauf, Anna Maria
   TITLE OF INVENTION: ACIDS
   TITLE OF INVENTION: ACIDS
   TITLE OF INVENTION: ACIDS
   TITLE OF INVENTION: ACIDS
   TITLE OF INVENTION: ACIDS
   TITLE OF INVENTION: ACIDS
   TITLE OF INVENTION: ACIDS
   TITLE REFERENCE: 28110/36120C
   CURRENT APPLICATION NUMBER: US/09/905,743B
   CURRENT FILING DATE: 1999-01-09-13
   PRIOR APPLICATION NUMBER: 09/240,639
   NUMBER OF SEQ ID NOS: 32
   SOFTWARE: PATENT IN VETSION 3.1
   SEQ ID NO 4
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Best Local Similarity 41.5%;
Matches 180; Conservative
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ORGANISM: Homo Sapiens
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JAPLICANT: VENTER, J. Craig et al.

APPLICANT: VENTER, J. Craig et al.

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF FILE REFERENCE: CLOO1307

CURRENT APPLICATION NUMBER: US/09/949,016

PRIOR APPLICATION NUMBER: 60/241,755

PRIOR FILING DATE: 2000-10-20

PRIOR FILING DATE: 2000-10-30

PRIOR FILING DATE: 2000-10-03

PRIOR PLILING DATE: 2000-10-03

PRIOR PLILING DATE: 2000-10-03

PRIOR PLILING DATE: 2000-10-03

PRIOR PLILING DATE: 2000-09-08

NUMBER OF SEQ ID NOS: 207012

SOFTWARE: FASESEQ for Windows Version 4.0

SEQ ID NO 6049
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41.5%; Pred. No. 1.3e-88;
ive 79; Mismatches 168;
ch 37.3%; Score 910.5; DB 4; al Similarity 41.5%; Pred. No. 1.3e-88; 180; Conservative 79; Mismatches 168;
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Patent No. 6812339
GENERAL INFORMATION:
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US-09-949-016-6049
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  Query Match
Best Local S
Matches 180
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JS-09-949-016-11559
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ORGANISM: Human
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APPLICANT: VENTER, J. Craig et al.

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF

CURRENT APPLICATION NUMBER: US/09/949,016

CURRENT PILING DATE: 2000-10-20

PRIOR FILING DATE: 2000-10-20

PRIOR APPLICATION NUMBER: 60/231,768

PRIOR APPLICATION NUMBER: 60/231,498

PRIOR FILING DATE: 2000-10-03

PRIOR FILING DATE: 2000-09-08

NUMBER OF SEQIED NOS: 207012

SOFTWARE: FRAGÉSEQ ÉCE WINGOWS VEFRION 4.0

SEQIED NO 11328
434
                                                                  79 NEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSN 138
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                                              EEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 37.3%; Score 910.5; DB 4; Length Best Local Similarity 41.5%; Pred. No. 1.4e-88; Matches 180; Conservative 79; Mismatches 168; Indels
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                                                                                                         435 MLNLTNMIPAEQPL 448
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464 MLSLTNQIPAESPL 477
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491 MLSLTNQIPAESPL 504
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US-09-949-016-11328
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Sequence 11559, Application US/09949016
; Sequence 11559, Application US/09949016
; Patent No. 6812339
; GENERAL INFORMATION:
    APPLICANT: VEWTER, J. Craig et al.
    TILE OF INVENTION: POLYWORPHISMS IN KNOWN GENES ASSOCIATED
    TILE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF;
    TURENT PELICATION NUMBER: US/09/949,016
; CURRENT FILING DATE: 2000-04-14
; PRIOR APPLICATION NUMBER: 60/241,755
; PRIOR FILING DATE: 2000-10-03
; PRIOR FILING DATE: 2000-10-03
; PRIOR FILING DATE: 2000-10-03
; PRIOR FILING DATE: 2000-10-03
; PRIOR FILING DATE: 2000-0-10-03
; RIOR FILING DATE: 2000-0-10-03
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        365 MMKKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQ 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ---QLLSRGYGFDERAFGGVIFQKKAA 414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            36 TRDVREPPALKYGIVLDAGSSHTSMFIYKWPADKENDTGIVGQHSSCDVPGGGISSYADN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |||||||:||
|GGASTQITF---ETTSPAEDRASEVQLHLYGQHYRVYTHSFLCYGRDQVLQRLLASALQT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  267 HGFH----PCWPRGFSTQVLLGDVYQSPCT----MAQRPQNFNSSARVSLSGSSDPHLCR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              18 TONKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          78 VNBIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESBELADRVLDVVERSLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NYPEDFOGARIITGOEEGAYGWITINYLLG---KFSOKTRWFSIVPYBTNNQETFGALDL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         54; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 35.5%; Score 865; DB 4; Length 47 Best Local Similarity 41.3%; Pred. No. 8.5e-84; Matches 183; Conservative 69; Mismatches 137; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Search completed: March 7, 2005, 13:27:55
Job time : 21.4328 secs
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March 7, 2005, 12:59:07; Search time 14:072 Seconds (without alignments) 3117.881 Million cell updates/sec
GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
                                                                               OM protein - protein search, using sw model
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Perfect score:	4432
Sequence:	1 VSHRNQQTWFEGIFLSSMXPNLTNMIPAEQPLSTPLSHST 456
Scoring table: BLOSUM62	BLOSUM62
Gapop 10	Gapop 10.0 , Gapext 0.5
Searched:	283416 segs, 96216763 residues
Total number of	Total number of hits satisfying chosen parameters: 283416

Post-processing: Minimum Match 0%
Maximum Match 100%
:Listing first 45 summaries Minimum DB seq length: 0 Maximum DB seq length: 2000000000

PIR 79: * 2: pir1: * 3: pir2: * 4: pir3: * Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

Description		lymphoid cell acti	hypothetical prote			probable nucleotid	probable nucleosid	7A19.33 protein -	hypothetical prote	cal	probable guanosine	nucleoside triphos	apyrase (EC 3.6.1.	hypothetical prote	hypothetical prote	guanosine-diphosph	nucleoside-triphos	TipC protein - sli	hypothetical prote		cal	RNA viral polymera	autolysin, N-acety	hypothetical prote	hypothetical prote	ď	hypothetical prote		υ	hypothetical prote
SUMMARIES		I56242	D86276	E86276	S50463	T40856	G84442	C86276	T34147	T16696	T39109	S48859	JC4616	T04439	T23508	A40732	A55421	T17414	T21251	T21516	T27332	B43963	AB1411	D86247	B89985	B48583	T18979	A96738	T03774	E71086
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Score		2297	502	469.5	448	411	409.5	395.5	388.5	383.5	380.5	374	336.5	332	329.5	313.5	167	104.5	103.5	101.5	100	66	98.5	98.5	98.5	98	96	97.5	97	97
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hypothetical prote probable fimbrial	myosin I beta - bu	hypothetical prote	chitin synthase (E	serine/threonine k	Mg2+ transporter h	hypothetical prote	lacticin 481/lacto	C4-dicarboxylase-b	C4-dicarboxylate t	genome polyprotein	glycogen(starch) s	fibroblast growth	hypothetical prote	aldehyde dehydroge
T05213 B85725	151173	F89770	JC2314	AG2391	G69859	S15962	T43110	877299	F83993	S16449	A33369	TVHUF3	B84532	086685
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371	1028	591	1013	1900	451	564	927	369	348	2151	735	908	686	459
0.6	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	9. 6.	3.8	3.8	3.8	3.8
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ALIGNMENTS

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	Lymphold cell active C;Species: Homo sapi C;Date: 02-Jul-1996	lymphoid cell activation antigen - numan C;Species: Homo sapiens (man) C;Date: 02-Jul-1996 #sequence revision 02-Jul-1996 #text change 09-Jul-2004
	C; Accession R; Maliszews	R.
	<pre>J. Immunol. 153, 35' A;Title: The CD39 ly A;Reference number:</pre>	J. Immunol. 153, 3574-3583, 1994 Azitle: The CD39 lymphoid cell activation antigen. Molecular cloning and structural cha A.Reference number: 156242; MUID:95015846; PMID:7930580
	A; Accession: I56242 A; Status: prelimina	Accession: I56242 Status: preliminary; translated from GB/EMBL/DDBJ
	A; Residues: A; Residues: A; Cross-ref	Astrolecture Lype: mean Astrolectures: 1-510 «RES» Astrone-reference: WINFOT: P49961; GB:S73813; NID:G765255; PIDN:AAB32152.1; PID:G765256 Astrone-reference: Annal contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact response to the contact re
	Query Match Best Local	510;
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	ò	12 GIFLSSMXPINVSASTLYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGI 71
	QQ	16 GLTQNKALPENVKYGIVLDAGSSHISLYIYKWPAEKENDTGVVHQVEECRVKGPGI 91
	ò	72 SKFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDV 131
	qq	92 SKFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEBLADRVLDV 151
	0,	132 VERSLSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGA 191
	Db 1	152 VERSLSNYPPDFQGARIITGQEEGAYGWIINYLLGKFSQKTRWFSIVPYETNNQETFGA 211
	0,	192 LDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQ 251
	Db 2	212 LDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQ 271
	0,7	252 VASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQPEIQGIGNYQQCHQSILE 311
	Db 2	272 VASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILE 331
	3	312 LFNTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCA 371
	30 a	332 LFNTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCA 391
	3	372 QPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWT 431
	Db 3	392 QPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWT 451
	Qy 4	432 LGYMLNLTNMIPAEQPLSTPLSHST 456
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WESOLY & D86276

hypothetical protein F7A19.34 [imported] - Arabidopsis thaliana (C;Species: Arabidopsis thaliana (mouse-ear cress)

C;Species: Arabidopsis thaliana (mouse-ear cress)

C;Date: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004

C;Accession: D86276

R;Theologis, A.; Ecker, J.R.; Palm, C.J.; Federspiel, N.A.; Kaul, S.; White, O.; Alonso, Chin, C.W.; Chung, M.K.; Conn, L.; Conway, A.B.; Conway, A.R.; Creasy, T.H.; Dewar, K.; ansen, N.F.; Hughes, B.; Huizar, L.

Nature 408, 815-820, 2000

A;Authors: Hunter, J.L.; Jenkins, J.; Johnson-Hopson, C.; Khan, S.; Khaykin, E.; Kim, C. C.A.; Li, J.H.; Li, Y.; Lin, X.; Liu, S.X.; Liu, Z.A.; Luros, J.S.; Maiti, R.; Marziali, Rizzo, M.; Rooney, T.; Rowley, D.; Sakano, H.

R;Zazo, M.; Rooney, T.; Rowley, D.; Sakano, H.

A;Authors: Salzberg, S.L.; Schwartz, J.R.; Shinn, P.; Southwick, A.M.; Sun, H.; Tallon, A;Authors: Salzberg, S.L.; Schwartz, J.R.; Shinn, P.; Southwick, A.M.; Sun, H.; Tallon, A;Authors: Salzberg, S.L.; Schwartz, J.R.; Shinn, P.; Southwick, A.M.; Sun, H.; Tallon, A;Accession: D86276

A;Accession: D86276

A;Accession: D86276

A;Residues: I-483 <STO>
A;Conetics: Preliminary
A;Molecule type: DNA
A;Residues: references: UNIPROT:Q9XI62; GB:AE005172; NID:g5080801; PIDN:AAD39311.1; GSPDB:GN
C;Genetics:
A;Map position: 1
C;Superfamily: nucleoside triphosphatase chromatin-associated
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAG-- 429
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               143 FOGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGASTQVT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 20.6%; Score 502; DB 2; Length 48: Best Local Similarity 31.5%; Pred. No. 1.6e-32; Matches 135; Conservative 68; Mismatches 164; Indels
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ansen, N.F.; Hughes, B.; Huizar, L.

Nature 408, 816-820, 2000

A;Authors: Hunter, J.L.; Jenkins, J.; Johnson-Hopson, C.; Khan, S.; Khaykin, E.; Kim, C., C.A.; Li, J.H.; Li, Y.; Liu, S.X.; Liu, Z.A.; Luros, J.S.; Maiti, R.; Marziall, Rizzo, M.; Rooney, T.; Rowley, D.; Sakano, Shinn, P.; Southwick, A.M.; Sun, H.; Tallon, I kathors: Salzberg, S.L.; Schwartz, J.R.; Shinn, P.; Southwick, A.M.; Sun, H.; Tallon, I ker, M.; Wu, D.; Yu, G.; Fraser, C.M.; Venter, J.C.; Davis, R.W.

A;Fitle: Sequence and analysis of chromosome 1 of the plant Arabidopsis.

A;Reference number: A86141; MUID:21016719; PMID:11130712
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C, Genetics:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LDVVERSLSNYPFDFQG--ARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQ 186
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      297
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A;Description: The sequence of S. cerevisiae cosmids 9537, 9581, 9495, 9867,
A;Reference number: 850433
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C;Species: Saccharomyces cerevisiae
C;Date: 28-May_1993 #sequence_revision 24-Feb-1995 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QQPEIQGIGNYQQCHQSILELF -- NTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             19.3%; Score 469.5; DB 2; 31.2%; Pred. No. 5.1e-30; ive 65; Mismatches 145;
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18.4%; Score 448; DB 2; L
Best Local Similarity 27.2%; Pred. No. 5.2e-28;
Matches 129; Conservative 90; Mismatches 152;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LGVALDD-ERIKYASKAGKENIPLDWALGAFILN 386
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A;Cross-references: SGD:S0000807
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
Matches 123; Conserv
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A; Residues: 1-630 <DIE>
                                                                                                                                                                                                                                                                                                                                                            A;Molecule type: DNA
A;Residues: 1-405 <STO>
                                                                                                                                                                                                                                                                                                                                  Status: preliminary
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R;Dietrich, F.S.
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	RESULT 6 G84442 probable nucleoside triphosphatase [imported] - Arabidopsis thaliana C;Species: Arabidopsis thaliana (mouse-ear cress) C;Date: 02-Feb-2001 #sequence_revision 02-Feb-2001 #text_change 09-Jul-2004 C;Accession: G8442 R;Lih, X.; Raul, S.; Rounsley, S.D.; Shea, T.P.; Benito, M.I.; Town, C.D.; Fujii, C.Y.; R;Lih, X.; Araul, S.; Rounsley, S.D.; Shea, M.; VanAken, S.E.; Umayam, b.; Tallon, L., Woo, H.; Moffat, K.S.; Cronin, b.A.; Shen, M.; VanAken, S.E.; Umayam, b.; Tallon, b., euss, D.; Nierman, W.C.; White, O.; Eisen, J.A.; Salzberg, S.L.; Fraser, C.M.; Venter, J. Nature 402, 761-768 A;Reference number: A84420; MUID:20083487; PMID:10617197 A;Accession: G84442 A;Accession: G84442 A;Accession: C84442 A;Accession: L.Sid SIDO, A;Accession: L.Sid SIDO, A;Accession: L.Sid SIDO, A;Accession: L.Sid SIDO, A;Accession: L.Sid SIDO, A;Accession: L.Sid SIDO, A;Accession: L.Sid SIDO, A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accessi	C; Genetics: A; Genetics: A; Genetics: A; Genetics: A; Genetics: A; Genetics: A; Genetics: A; Genetics: A; Genetics: A; Genetics: A; Genetics: A; Genetics: A; Genetics: A; Genetics: A; Genetics: C; Superfamily: nucleoside triphosphatase chromatin-associated A; Genetics: A; Genetics: A; Genetics: C; Superfamily: nucleoside triphosphatase chromatin-associated Query Match Best Local Similarity 27.7%; Pred. No. 5e-25; Matches 119; Conservative 66; Mismatches 191; Indels 53; Gaps 13; Atches 119; Conservative 66; Mismatches 191; Indels 53; Gaps 13; Atches 119; Conservative 66; Mismatches 191; Indels 53; Gaps 13; Atches 119; Conservative 66; Mismatches 191; Indels 53; Gaps 13; Atches 119; Conservative 66; Mismatches 191; Indels 53; Gaps 13; Atches 119; Conservative 66; Mismatches 191; Indels 53; Gaps 13; Atches 119; Conservative 66; Mismatches 191; Indels 53; Gaps 13; Atches 119; Conservative 66; Mismatches 191; Indels 53; Gaps 13; Atches 119; Conservative 66; Mismatches 191; Indels 53; Gaps 13; Atches 119; Conservative 66; Mismatches 191; Indels 53; Gaps 13; Atches 119; Conservative 66; Mismatches 191; Indels 53; Gaps 13; Atches 119; Conservative 66; Mismatches 191; Indels 53; Gaps 13; Atches 119; Conservative 66; Mismatches 191; Indels 53; Gaps 13; Atches 119; Conservative 66; Mismatches 191; Indels 53; Gaps 13; Atches 119; Conservative 66; Mismatches 191; Indels 53; Gaps 13; Atches 119; Architecture 66; Mismatches 191; Indels 53; Gaps 13; Atches 119; Architecture 66; Mismatches 191; Indels 53; Gaps 13; Atches 119; Architecture 66; Mismatches 191; Indels 53; Gaps 13; Atches 119; Architecture 66; Mismatches 191; Indels 53; Atches 191; Indels 53; Atches 191; Indels 53; Atches 191; Indels 53; Atches 191; Indels 53; Atches 191; Indels 53; Atches 191; Indels 53; Atches 191; Indels 53; Atches 191; Indels 53; Atches 191; Indels 53; Atches 191; Indels 53; Atches 191; Indels 53; Atches 191; Indels 53; Atches 191; Indels 53; Atches 191; Indels 53; Atches 191; Atches 191; Atches 191; Atches 191; Atches 191; Atches 191; Atches	SDEGVIAWVVANFALGSLGGDPLKTTG
Qy 29 YGTVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVK-GPGISKF 74	Qy 235 CYGKDQALWQKLAKDIQVASNBILRDPCFHPGYKKVVNVSDLYKTPCT 282	fission yeast (Schizosaccharomyces pombe) be slon 03-Dec-1999 #text_change 09-Jul-2004 V.; Rajandream, M.A.; Barrell, B.G. Cotober 1999 from GB/EMBL/DDBJ ; EMBL:AL121783; PIDN:CAB57847.1; GSPDB:GN00068; SPDB: -; cosmid cliblo	Query Match 16.9%; Score 411; DB 2; Length 572; Best Local Similarity 27.1%; Pred. No. 4.4e-25; 124; Gaps 19; Matches 130; Conservative 69; Mismatches 156; Indels 124; Gaps 19; 19; Qy 29 YGIVLDAGSSHTSYIXYWAPBKENDTGVHQVEECRVKGDGISKEVQ 76

15;

63;

Indels

Length 485;

84

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A,Description: The sequence of C. elegans cosmid C33H5.
A,Reference number: Z21482
A,Accession: T34147
A,Status: preliminary, translated from GB/EMBL/DDBJ
A,Molecule type: DNA
A,Residues: 1-485 <BRA>
A,Residues: 1-485 <BRA>
A,Cross-references: UNIPROT:Q18411; EMBL:U41007; PIDN:AAA82272.1; CESP:C33H5.14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LIDCMERAREVIPRSOHOETPVYLGATAGMRLLRMESEELADRVLDVVERSLSNYPFDFO 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                205 PONOTIESPD--NALQFRLYGKD-----YNVYTHSFLCYGKDQALWOKLAKDIQVASNE 256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                257 ILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTS 316
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        289 AQPSCPNPTCFLRNVIAPSVNLSTVQLYGFSEYWYTTSNFGSGGE-YHYQKFTDBVRKYC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              193 IANEK-ESYNGGNVYEINLGSIETNEDYKYKIYSTTFLGYGANEGL-KKYENSLVKSGNS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    25 YGVICDAGSSGTRLFVYTLKPLSGGLTNIDTLIHESEPVVKKVTPGLSSFGDKPEQVVEY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   145 GARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGASTQVTFV
                                                                                                                                                                                                                                                                                                                                                                                                                       29 YGIVLDAGSSHTSLYIYKWPAEKENDTGV---VHQVEECRVK-GPGISKFVQKVNEIGIY
                                                                                                                                                                                                                                                   A;Introns: 22/1; 83/1; 120/2; 167/1; 269/3; 399/3
C;Superfamily: nucleoside triphosphatase chromatin-associated
                                                                                                                                                                                                                                                                                                                       Query Match
16.0%; Score 388.5; DB 2;
Best Local Similarity 26.4%; Pred. No. 2.2e-23;
Matches 114; Conservative 68; Mismatches 187;
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7419.33 protein - Arabidopsis thaliana (mouse-ear cress)
C;Species Arabidopsis thaliana (mouse-ear cress)
C;Species Arabidopsis thaliana (mouse-ear cress)
C;Date: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004
C;Accession: C86276
R;Theologis, A.; Ecker, J.R.; Palm, C.J.; Federspiel, N.A.; Kaul, S.; White, O.; Alonso, Chin, C.W.; Chung, M.K.; Conn, L.; Conway, A.B.; Conway, A.R.; Creasy, T.H.; Dewar, K.; ansen, N.F.; Hughes, B.; Huizar, L.
Nature 408, 816-820, 2000
A;Authors: Hunter, J.L.; Jenkins, J.; Johnson-Hopson, C.; Khan, S.; Khaykin, E.; Kim, C.C.A.; Li, J.H.; Li, Y.; Lin, X.; Liu, S.X.; Liu, Z.A.; Luros, J.S.; Maiti, R.; Marziali, Rizzo, M.; Rooney, T.; Rowlery, D.; Sakano, H.
R;Zzo, M.; Rooney, T.; Rowlery, D.; Sakano, H.; Shim, P.; Southwick, A.M.; Sun, H.; Tallon, A;Authores: Salzberg, S.L.; Schwartz, J.K.; Shim, P.; Southwick, A.M.; Sun, H.; Tallon, A;Attence number: A86141; MUID:21016719; PMID:11130712
A;Accession: C86276
A;Accession: C86276
A;Residues: preliminary
A;Molecule type: DNA
A;Residues: 1-508 c5770>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     --GASTQVTFVPQNQTIESPDNALQFRLYGK-DYNVYTHSFLCYGKDQALWQKLAKDI-Q 251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VASNE----ILRDPCFHPGYKKVVNV-SDLYKTPCTK-RFEMTLPFQQFEIQGIGNYQQC 305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               HOSILELF--NTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVT 363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RSAAFAMLQEEKGKCTYKRCSIGSIFTPNLQGSFLATENFFHTSKFFGL-GEK---EWLS 372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMM---KKFCAQPWEEIKTSYAGVKEKYLSEYÇFSGTYILSLLLQGYHFTADSWEHIHFI 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | | : | : | : | : | : | EMILAGKRFCGEEWSKLKVKYPTFKDENLLRYCFSSAYIISMLHDSLGVALDD-ERIKYA 431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MRSVRLEVTFV---STELVPSEFSRTLAYGNVSYNLYSHSFLDFGQD-AAQEKLSESLYN 263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   T34147
hypothetical protein C33H5.14 - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 9-0ct-1999 #sequence_revision 29-0ct-1999 #text_change 09-Jul-2004
C;Accesion: T34147
R;Bradshaw, H.; Stellyes, L.
Submitted to the EMBL Data Library, November 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NVSASTLYGIVLDAGSSHTSLY1YKWPAEKENDTGVVHQVEECRVK-GPGISKFVQKVNE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gabs
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 2; Length 508;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; Score 395.5; DB 2; Length 5;
; Pred. No. 6.5e-24;
69; Mismatches 175; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Map position: 1
C;Superfamily: nucleoside triphosphatase chromatin-associated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GKIQGSD--AGWTLG-YMLN 437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         451
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| SKAGEEDIPLDWALGAFILN
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Best Local
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A;cross-references: EMBL:U39652; NID:g1049390; PID:g1049394; PIDN:AAA80403.1; CESP:R07E4
A;Experimental source: strain Bristol N2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 20;
hypochetical protein R07E4.4 - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 20-Sep-1999 #sequence_revision 20-Sep-1999 #text_change 20-Sep-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              73;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 557;
                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Gene: CESP:R07E4.4
A;Introns: 39/1; 67/1; 145/2; 192/1; 244/3; 317/3; 451/3; 488/2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                      A; Description: The sequence of C. elegans cosmid R07E4. A; Reference number: Z18561
A; Accession: T16696
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
15.8%; Score 383.5; DB 2;
Best Local Similarity 25.9%; Pred. No. 6.9e-23;
Matches 123; Conservative 85; Mismatches 194;
                                                                                                                                                                                                                                                                A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-557 <MIL>
                                                                                                                                                       October 1995
                                                                                            C, Accession: T16696
R, Miller, N.
submitted to the EMBL Data Library,
                                                                                                                                                                                                                                                                                                                                                                                                                             C, Genetics:
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Qy 260 DPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGN 301 i : : : :	C;Dāte: 13-Jan-1995 #sequence_revision 13-Jan-1995 #text_change 09-Jul-2004 C;Accession: S6147; S48859 C;Accession: S6147; S48859 A;Histeh, H.L.; Tong, C.G.; Thomas, C.; Roux, S.J. Plant Mol. Biol. 30, 135-147, 1996 A;Title: Light-modulated abundance of an mRNA encoding a calmodulin-regulated, chromatin A;Reference number: S65141; MUID:96197404; PMID:8616230 A;Accession: S65147 A;Molecule type: mRNA A;Residues: 1-455 S-HS2> A;Cross-references: UNIPROT:P52914; EMBL:232743; NID:9563611; PIDN:CAA83655.1; PID:95636 C;Superfamily: nucleoside triphosphatase chromatin-associated C;Keywords: nucleus	Query Match 15.4%; Score 374; DB 2; Length 455; Best Local Similarity 25.6%; Pred. No. 3e-22; Matches 116; Conservative 80; Mismatches 169; Indels 88; Gaps 18; Qy 29 YGIVLDAGSSHTSLYTKWPAEKENDTGVVHQVEECRVKGPGISKFVQKVNEIGIYL 85	255 NEILRDECHPGYKKVNNVSDLYKTPCTKREMTLPPQQFEIQGIGNYQQCHQS 253 ABILKITPRSPNPCLLAGFNGIYTYSGBERFATAYTSGANFNKCKNT 309 ILBLENTSY-CPYSQCAPNGIFLPPLQGBCGAFSAFYFWKFLNLTSEK
29 YGİVLDAGSSHTSLYIYKMPAEKENDTGVVHQVEECRVK-GPGISKFVQKVNEIGI	QY 301 NYQQCHQSILELFNTSYCPYSQCAFNGIFLPPLQG-DFGAFSAFYFWKFLN 351	RESULT 10 T39109 probable guanosine-diphosphatase - fission yeast (Schizosaccharomyces pombe) c; Species: Schizosaccharomyces pombe C; Species: Schizosaccharomyces pombe C; Species: Schizosaccharomyces pombe C; Species: Schizosaccharomyces pombe C; Species: Schizosaccharomyces pombe C; Species: Schizosaccharomyces pombe C; Species: Schizosaccharomyces pombe C; Recession: T39109 A; Restence number: Z21828 A; Recession: T39109 A; Restence number: Z21828 A; Restence preliminary; translated from GB/EMBL/DDBJ A; Residues: preliminary; translated from GB/EMBL/DDBJ A; Residues: 1-556 cBAR> A; Cross-references: UNIRROT: O9UT35; EMBL: AL121741; PIDN: CAB57338.1; GSPDB: GN00066; SPDB: A; Experimental source: strain 972h-; cosmid C824 C; Genetics: A; Genetics: A; Genetics: A; Map position: 1	Query Match 15.6%; Score 380.5; DB 2; Length 556; Best Local Similarity 27.2%; Pred. No. 1.2e-22; Matches 121; 'Conservative 70; Mismatches 181; Indels 73; Gaps 17; Qy 29 YGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQKVNBIGIYLT 86

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A;Cross-references: UNIPROT:Q9XU84; EMBL:Z83113; PIDN:CAB05544.1; GSPDB:GN00023; CESP:K0:
A;Experimental source: clone K08H10
                                                                                                                                                         Cispecies: Arabidopsis thaliana (mouse-ear cress)
Cispecies: Arabidopsis thaliana (mouse-ear cress)
Cipate: 30-Apr-1999 #sequence_revision 30-Apr-1999 #text_change 09-Jul-2004
Cipate: 30-Apr-1999 #sequence_revision 30-Apr-1999 #text_change 09-Jul-2004
Cipate: 30-Apr-1999 #sequence_revision 30-Apr-1999 #text_change 09-Jul-2004
Cipate: 30-Apr-1999 #sequence_revision Sequence_parabase, April 1998
Algeference number: 218359
Algeference number: 218359
Algeference number: 218359
Algeference number: 218359
Algeferences: 1-1052 *BBV
Algeferences: 1-1052 *BBV
Algeferences: UNIPROT: 049676; EMBL: AL021687
Algeferental source: cultivar Columbia; BAC clone T18816
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      350 LNLTSEKVSQEKVTEMMKKFCAOPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLOGYHF 409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241
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C;Species: Caenorhabditis elegans
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 09-Jul-2004
C;Accession: T23508
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -----LWQKLA---KDIQVASNBILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       69 PGISKFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLR-MESEELADR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     128 VLDVVERSLSNYPFDF--QGARIITGQEEGAYGWITINY---LLGKFSQKTRWFSIVPYE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SGVSIKLVGAPNWGEC-----SALAKNAPCALPDGY-PRPHCQFYAVSGFFVVYRF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           183 INNQETFGALDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQA-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          --- OF BIOGIGNY O O CHOSILEL FNTSY CPYSOCAFNCIFL PPLOGDFGAFSAFY FVMKF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 1052;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C;Genetics:
A;Map position: 4
A;Introns: 79/3; 118/3; 217/1; 295/3; 396/3; 531/2; 815/3
A;Noce: T18B16.150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   13.7%; Score 332; DB 2; Lk 26.9%; Pred. No. 2.5e-18; ive 70; Mismatches 149;
                                                                                                                                                - Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Rigardner, A. submitted to the EMBL Data Library, November 1996 submitted to the EMBL Data Library, November 1996 A; Reference number: 219750 A; Accession: 123508 A; Status: preliminary; translated from GB/EMBL/DDBJ A; Status:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TADSWEHIHFIGKIQGSDAGWTLGYML 436
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                                                                                                                                                      hypothetical protein T18B16.150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   449
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A, Residues: 1-479 <WIL>
              VSSTTNKI
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A, Map position: 5
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apyrase (EC 3.6.1.5) precursor - potato

N.Alternae names: adealypyrophosphatase; ATP-diphosphohydrolase
C;Species: Solanum tubercoum (potato)
C;Daec: 10-May-1996 #sequence_revision 19-Jul-1996 #text_change 09-Jul-2004
C;Daec: 10-May-1996 #sequence_revision 19-Jul-1996 #text_change 09-Jul-2004
C;Daec: 10-May-1996 #sequence_revision 19-Jul-1996 #text_change 09-Jul-2004
C;Daec: 10-May-1996 #sequence_revision 19-Jul-1996 #text_change 09-Jul-2004
C;Daec: 10-May-1996 #sequence_revision 19-Jul-1996 #text_change 09-Jul-2004
C;Daec: 10-May-1996 #sequence_revision 19-Jul-1996 #text_change 09-Jul-2004
C;Daec: 10-May-1996 #sequence_revision 19-Jul-1996 #text_change 09-Jul-2004
C;Daec: 10-May-1996 #sequence_revision of a soluble ATP-diphosphohydrolase (Apyrase)
C;Daec: 10-May-1996 #sequence_revision of a soluble ATP-diphosphohydrolase #status predicted of Comment: This enzyme belongs to a family of E-type ATPases, and it catalyzes the hydro-cenzyme has mucleotide substrate specificity, divalent cation requirement, and insensition of the farch synthesis.
C;Gament: This enzyme belongs to a family of E-type ATPases, and it catalyzes the hydro-cenzyme has mucleotide substrate specificity, divalent cation requirement, and insensition of the farch synthesis.
C;Gament: This enzyme belongs to a family of E-type ATPases, and it catalyzes the hydro-cenzyme has mucleotide substrate specificity, divalent cation requirement, and insensition of Superfamily: nucleotide binding #status predicted <TMM>
F;13-454/Product: ATP-diphosphohydrolase #status predicted
F;44-65/Region: actin-heat shock protein 70-hexokinase beta-phosphate binding
F;130-212/Region: actin-heat shock protein 70-hexokinase pamma-phosphate binding
F;130-222/Region: author-heat shock protein 70-hexokinase gamma-phosphate binding
F;131-262/Binding site: carbohydrate (Ann) (covalent) #status predicted
F;131-262/Binding site: carbohydrate (Ann) (covalent)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       283 -YKVKAPKKG------SSWKRCRRLTRHALKINAKCNIEECTFNGVW----N 323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GDFG-----AFSAFYFVMKFLNLTSEKVSQE-----KVTEMMKKFCAQPWEEIKTSYA 382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSD----AGWTLGYMLNL 438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              441
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VYLGATAGMRLLRMESEELADRVLDVVE---RSLSNYPFDFQGARIITGQEEGAYGWITI 162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NQQTWFEGIFLS-----SMXPINVSA-----STLYGIVLDAGSSHTSLYIY 45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RFD-EKLGLLPIGNNIEYFMATEPGLSSYAEDPKAAANSLEPLLDGAEGVVPQELQSETP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       324 GGGGDGQKNIHASSFFYDIGAQVGIVDTKFPSALAKPIQYLNAAKVACQTNVADİKSIFP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      384 KTQDRNIPYLCMDLIYBYTLLVDG--FGLNPHKEITVIHDVQYKNYLVGAAWPLGCAIDL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGASTQVTFVPQN-QTIESPDN-----
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 276 LYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFN-TSYCPYSQCAFNGIFLPPLQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 454;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           / Match 13.8%; Score 336.5; DB 2; Local Similarity 24.8%; Pred. No. 3.2e-19; neg 121; Conservative 83; Mismatches 193;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ----TNMI 442
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8 셤 ò ద ò g ò 셤 ò 요 8 ò

20;

Gaps

73;

Indels

98

250

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A;Cross-references: EMBL:U18779; NID:g603625; PIDN:AAB55000.1; PID:g603637; MIPS:YEL042w
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             93 YVIMIDAGSTGSRVHIYKFDVCTSPPTLL---DEKFDMLEPGLSSF--DTDSVGAANSLD 147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         205 GDGVSIMGGDEEGVFAWITTNYLLGNIG------ANGPKLPTAAVFDLGGGSTQ 252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  253 IVFEPTFPINEKAVDGEHKFDLKFGDENYTLYQFSHLGYGLKEGRNKVNSVLVENALKDG 312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         251 QVASNE----ILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQPEIQGIG----N 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          302 YQQCHQSILELFN-TSYCPYSQCAFNGIFLPPL-----QGDFGAFSAFYFVMKFLNLTS 354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361 GAQCRFLTDEILNKDAQCQSPPCSFNGVHQPSLVRTFKESNDIYIFSYFYDRTRPLGMPL 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             35 EKVSQEKVTEMMKKFC--AQPWEEIKTSYAGVKEKYLSE--YCFSGTYILSLLLQGYHFT 410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          421 SFTLNE-LNDLARIVCKGEETWNSVPSGIAGSLDELESDSHFCLDLSFQVSLLHTGYDIP 479
                                                                                                                                                            A Map position: 5L
C;Function:
A;Description: hydrolase
C;Superfamily: nucleoside triphosphatase chromatin-associated
C;Superfamily: nucleoside triphosparatus; hydrolase; transmembrane protein
C;Keywords: glycoprotein; Golgi apparatus; hydrolase; transmembrane protein
F;10-24/Domain: transmembrane #status predicted <TMM>
F;10-24/Domain: cansmembrane (Asn) (covalent) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            87 DCMERAREVIPRSQHQETPVYLGATAGMRLL-RMESEELADRVLDVVERSLSNYPF---D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VTFVPQ---NQTIESPDNALQFRLYGKDYNVYTHSFLCYG-----KDQALWQKLAKDI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                YGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQKVNEIGI--YLT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQE--TFGALDLGGASTQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 12.9%; Score 313.5; DB 2; Best Local Similarity 26.6%; Pred. No. 2.8e-17; Matches 119; Conservative 70; Mismatches 186;
                                                                                                                               SGD:S0000768; MIPS:YEL042w
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     411 ADSWEHIHFIGKIQGSDAGWTLGYMLNL 438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LQ--RELRTGKKIANKEIGWCLGASLPL
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Job time : 15.072 secs
                                                                                                                               A; Cross-references:
                                                 C, Genetics:
A, Gene: SGD: GDA1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        143
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Quanosine-diphosphatase (EC 3.6.1.42) - yeast (Saccharomyces cerevisiae)

NyAlternate names: protein YEL042w

C;Species: Saccharomyces cerevisiae

C;Species: Saccharomyces cerevisiae

C;Date: 21.5ep-1993 #sequence revision 18-Nov-1994 #text_change 09-Jul-2004

C;Accession: A40732; B40732; B30837; S50502

R;Abeljon, C.; Yanagisawa, K.; Mandon, B.C.; Hausler, A.; Moremen, K.; Hirschberg, C.B.;

A;Title: Quanosine diphosphatase is required for protein and sphingolipid glycosylation

A;Reference number: A40732; MUID:93308137; PMID:8391537

A;Accession: A40732.
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A;Note: sequence extracted from NCBI backbone (NCBIN:134708, NCBIP:134711)
A;Accession: B40732
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A; Mesidues: 125-144;238-257;276-281;366-374;399-412 <AB2>
R; Mulligan, U.T.; Dietrich, F.S.; Hennessey, K.M.; Sehl, P.; Komp, C.; Wei, Y.; Taylor, eubmitted to the EMBL Data Library, February 1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A Cross-references: GB:U18779; EMBL:L10830; NID:g603625; PIDN:AAB65000.1; PID:g603637 R;Dietrich, F.S.
R;Dietrich, F.S.
submitted to the EMBL Data Library, December 1994
A;Description: The sequence of S. cerevisiae cosmids 8199, 8334, and 9871.
A;Reference number: S50491
A;Accession: S50502
                                                                                                                                                                                                             19;
                                                                                                                                                                                                                                                                                                                                                                                                                                       OKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERS 135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LDLGGASTQVTFVPQNQTIESP----DNALQFRLYGKDYNVYTHSFLCYGKDQALWQ--K 245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     :: : | : | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : |
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LSNYPF--DFQGA-RIITGQEEGAYGWITINYLLGK-FSQKTRWFSIVPYETNNQETFGA 191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         206 PDLGGGSTQLTYWPNNEAVFSEHVGYERDIDF--FGHHIRLFTHSFLGNGLIAARLNILQ 263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LAKDIQVASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQC 305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LETDNEIESTHQLITSCMPEGYQ------LTEWEYALKFWNINGSSSHSFESC 310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               HOSILELFNTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNL-----TSEKVSQ 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EKVTEMMKKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHF 419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     361 ROPKEAAEIACRREKTEIDDG-----SHWMPWQCLDLTYIYSLLRDGYQF--EDNQPLVL 413
                                                                                                                                                                                                                                                                               22 NVSASTLYGIVLDAGSSHTSLYIYKW---PAEKENDTGVVHQVEE---CRVKGPGISKFV 75
                                                                                                                                                                                                                                                                                                                                                                 92
                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                         65;
                                                                                                                               Length 479;
                                                                                                                       13.5%; Score 329.5; DB 2; Length 26.8%; Pred. No. 1.3e-18; ive 71; Mismatches 197; Indels
A;Introns: 36/3; 83/3; 189/1; 300/2; 412/3
C;Superfamily: nucleoside triphosphatase chromatin-associated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   420 IGKIQGSDAGWTLGYMLNLTNMIP-AEQPLSTPLS 453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 414 AKKIKGMEVSWGQGLAFATANEFQLTEGAIKTALS 448
                                                                                                                                                                Best Local Similarity 26.89
Matches 122, Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Reference number: S30812
A;Accession: S30837
A;Molecule type: DNA
A;Residues: 1-518 <MUL>
                                                                                                                                                        Local Similarity
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A; Residues: 1-518 < ABE>
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[5] SEQUENCE OF 1-30; 49-65; 94-97; 88-93; 193-223; 245-265; 382-385 AND 399-405 (ISOFORM PLACENTAL I). TISSUE=Placenta;

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Name=Placental II;
Name=Placental II;
Name=Placental II;
Name=Placental II;
Name=Placental II;
Name=Placental II;
Name=Placental Isoform II are present in both placenta and umbilical vein, whereas placental isoform I is present in placenta
                    Makita K., Shimoyama T., Sakurai Y., Yagi H., Matsumoto M., Narita N., Sakamoto Y., Saito S., Ikeda Y., Suzuki M., Titani K., Fujimura Y.; "placental ecto-ATP diphosphohydrolase: its structural feature distinct from CD39, localization and inhibition on shear-induced platelet aggregation."; Int. J. Hematol. 68:297-310(1998).
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MEDLINE=20100721; PubMed=10636909; DOI=10.1074/jbc.275.3.2057;
MEDLINE=20100721; PubMed=10636909; DOI=10.1074/jbc.275.3.2057;
MEDLINE=20100721; PubMed=10636909; DOI=10.1074/jbc.275.3.2057;
Schulte Am Esch J. II, Imai M., Guckelberger O., Goepfert C., Qawi I.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Parolace, 75:2057-2062(2000).

Biol. Chem. 275:2057-2062(2000).

- FUNCTION: In the nervous system, could hydrolyze ATP and other nucleotidaes to regulate purinergia neurotransmission. Could also he implicated in the pervention of platelet aggregation. Hydrolyzes ATP and ADP equally well.

- GARALYTIC ACTIVITY: ATP + 2 H(2)0 = AMP + 2 phosphate.

- COPACTOR: Requires calcium and magnesium.

- SUBCELLIAGE LOCATION: Integral membrane protein (Potential).

- ALTERNATIVE PRODUCTS:

- Event=Alternative splicing; Named isoforms=3;
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MISCELLANEOUS: Optimal pH is 7.0-7.5 with ATP as substrate and 7.5-8.0 with ADP.

SIMILARITY: Belongs to the GDA1 / CD39 NTPase family.

DATABASE: NAME-PROM; NOTE=CD guide CD39 entry;

WWW="http://www.ncbi.nlm.nih.gov/prow/cd/cd39.htm".
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "Palmitoylation targets CD39/endothelial ATP diphosphohydrolase to
                                                                                                                                                                                                                       MEDLINE=97115868; PubMed=8955160; DOI=10.1074/jbc.271.51.33116; Kaczmarek E., Koziak K., Sevigny J., Siegel J.B., Anrather J., Beaudoin A.R., Bach F.H., Robson S.C.; "Identification and characterization of CD39/vascular ATP
                                                                                                                                                                                                                                                                                                                                                                                                       CHARACTERIZATION.
MEDLINE=96215267; PubMed=8626624; DOI=10.1074/jbc.271.17.10391;
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Name=Placental 1;
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"CD39 is an ecto-(Ca2+,Mg2+)-apyrase.";
J. Biol. Chem. 271:9898-9901(1996).
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  MEDLINE=99062444; PubMed=9846014;
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N-linked (GlCNAc. ..) (Potential).
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GO; GO:0005887; C:integral to plasma membrane; TAS.
GO; GO:0007596; P:blood coagulation; TAS.
InterPro; IPR00407; GDAI_CD39_NTPase.
PEmi, PP01150; GDAI_CD39_1.
PROSITE; PS01128; GDAI_CD39_NTPASE; 1.
Alternative splicing; Antigen; Calcium; Direct protein sequencing; Glycoprotein; Hydrolase; Lipoprotein; Magnesium; Palmitate;
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Missing (In isoform Placental II).
/FIId=VSP_003609.
/FIId=VSP_003609.
D -> K (In Ref. 5).
T -> TGET (In Ref. 4).
V -> Y (In Ref. 5).
V -> Y (In Ref. 5).
W, BAD87D2499649159 CRC64;
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Pred. No. 1.2e-169;
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Extracellular (Potential).
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N-linked (GlcNAc. .)
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a RESULT Q86VV3

U87967; AAB47572.1; -.
AJ133133; CAB41886.1; -.
AJ133134; CAB41887.1; -.

PIR; I56242; I56242. Genew; HGNC:3363; ENTPD1.

EMBL;

EMBL

601752; -.

MIM;

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Straubberg R.L., Peingold E.A., Grouse L.H., Derge J.G.,
Naumer R.D., Collins F.S., Wagner L., Shemmen C.M., Schuler G.D.,
Altschul S.F., Zeeberg B. Buetow K.H., Schemen C.M., Schuler G.D.,
Altschul S.F., Zeeberg B. Buetow K.H., Schafer C.F., Bhat N.K.,
Altschul S.F., Zeeberg B. Buetow K.H., Schafer C.F., Bhat N.K.,
Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
Stapleton M., Soares M.B., Bonaldow M.F., Casavant T.L., Scheetz T.E.,
Brownstein M.J., Usdin T.B., Tooshlyuki S., Carninci P., Frange C.,
B. Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
Broak S.A., McKwan P.J., McKernan R.J., Malek J.A., Gunarane P.H.,
Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
Wilalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
Rachy J., Helton B., Ketteman M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Buterfield Y.S.,
Krzywinski M.I., Skalska U., Smailus D.E., Schnerch A., Schein J.E.,
Jones S.J., Marra M.A.,
Jones S.J., Marra M.A.,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        119 MESEELADRVLDVVERSLSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSI 178
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                                                                                                    Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Butheria, Primates, Catarrhini, Hominidae, Homo.
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                                                                                                                                                                                       MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Strausberg R.; Submitted (MAR-2003) to the EMBL/GenBank/DDBJ databases. Submitted (MAR-2003) to the EMBL/GenBank/DDBJ databases. EMBL; BC040/664; AAH47664.1; -. GO; GO:0016787; P:hydrolase activity; IEA. InterPro: IRR000407; GDJL CD39_NTPase. PF01150; GDAl_CD39_NTPASE; 1. PROSITE; PS01238; GDAl_CD39_NTPASE; 1. SEQUENCE 372 AA; 42731 MM; ABBIDE1366356EE3 CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
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                                                Last sequence update)
Last annotation update)
        372 AA
                                    Created)
     PRT;
                                   01-JUN-2003 (TrEMBLrel. 24, 01-JUN-2003 (TrEMBLrel. 24, 01-MAR-2004 (TrEMBLrel. 26,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                and mouse cDNA sequences.
PRELIMINARY;
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Matches 338; Conservative
                                01-JUN-2003 (TrEMBLrel. 01-JUN-2003 (TrEMBLrel.
                                                                           ENTPD1 protein.
Homo sapiens (Human)
                                                                                                                                                          SEQUENCE FROM N.A.
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                                                                                                                                NCBI_TaxID=9606;
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GO; GO:0005605; C:basal lamina; IDA.
GO; GO:0005605; C:basal lamina; IDA.
GO; GO:0006150; F:apyrase activity; IDA.
GO; GO:0006200; P:ATP catabolism; IDA.
GO; GO:0007186; P:G-protein coupled receptor protein signalin. .;
GO; GO:003168; P:platelet activation; IDA.
GO; GO:003181; P:platelet activation; IDA.
GO; GO:003181; P:purine ribonucleoside diphosphate catabolism; IDA.
InterPro; IPR004047; GDA1_CD39_NTPase.
PFam; PF01150; GDA1_CD39_NTPASE; 1.
PROSITE; PS01238; GDA1_CD39_NTPASE; 1.
Antigen; Calcium; Glycoprotein; Hydrolase; Magnesium; Transmembrane.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
MEDLINE=95015846; PubMed=7930580;
Maliazewski C.R., Delespesse G.J.T., Schoenborn M.A., Armitage R.J., Fanalow W.C., Nakajima T., Baker E., Sutherland G.R., Poindexter K., Blirks C., Alpert A., Friend D., Gimpel S.D., Gayle R.B. III;
"The CD3 lymphoid cell activation antigen. Molecular cloning and structural characterization.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Could also
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Schoenborn M.A., Jenkins N.A., Copeland N.G., Gilbert D.J., Gayle R.B. III, Maliszewski C.R.; "Gene structure and chromosome location of mouse Cd39 coding for an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-NOV-1997 (Rel. 35, Created)
01-NOV-1997 (Rel. 35, Last sequence update)
01-NOV-1997 (Rel. 35, Last sequence update)
ES-JUL-2004 (Rel. 44, Last annotation update)
Estonucleoside triphosphate diphosphohydrolase 1 (EC 3.6.1.5)
(NTPDasel) (Ecto-ATP diphosphohydrolase) (ATPDase) (Lymphoid cell activation antigen) (Ecto-apyrase) (CD39 antigen).
                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
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                                      510 AA
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EMBL, AF041814, AAC83203 1, JOINED.
EMBL, AF041815, AAC83203 1, JOINED.
EMBL, AF041816, AAC83203 1, JOINED.
EMBL, AF041817, AAC83203 1, JOINED.
MGD, MGI:102805, Entpd1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STRAIN=129/SvJ;
MEDLINE=98399871; PubMed=9730622;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Immunol. 153:3574-3583 (1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL; AF037366; AAB92259.1; -.
                                                                                                                                                                                                                                                                                                     Name=Entpd1; Synonyms=Cd39;
Mus musculus (Mouse).
                                      STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=10090;
                                  ENP1 MOUSE
P55772;
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DOMAIN
ENP1 MOUSE
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LENTSYCPYSOCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEK--VSQEKVTEMMKKF 369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CAQPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAG 429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQ 251
                                                                                                                                                                                                                                                                                                                                                                    SKFVQKVNEIGIYLTDCMERARBVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDV 131
                                                                                                                                                                                                                                                                92 SKYAQKTDEIGAYLAECMELSTELIPTSKHHQTPVXLGATAGMRLLRMESEQSADEVLAA 151
                                                                                                                                                                                                                                                                                                                                                                                                       VASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILE 311
                                                                                                                                                                                                                                                                                                   VERSLSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGA 191
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                                                                                                                                                                                                               36 GLIQNKPLPENVK----YGIVLDAGSSHTNLXIYKWPAEKENDTGVVQQLEECQVKGPGI
                                                                                                                                                                                                   12 GIFLSSMXPINVSASTLYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGI
                                                                                                                                                                           Gaps
       Extracellular (Potential).

Potential.

Cytoplasmic (Potential).

N-linked (GLONAc. .) (Potential).

N-linked (GLONAc. .) (Potential).

N-linked (GLONAc. .) (Potential).

N-linked (GLONAc. .) (Potential).

N-linked (GLONAc. .) (Potential).

N-linked (GLONAc. .) (Potential).

N-linked (GLONAc. .) (Potential).

WHY, 8E6A6113D2E13930 CRC64;
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                          .;
8
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01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
Mus musculus adult male testis cDNA, RIKEN full-length enriche library, clone:4921511C05 product:ectonucleoside triphosphate diphosphohydrolase 1, full insert sequence.
                                                                                                                                                 Length 510;
                                                                                                                                                                          61; Indels
                                                                                                                                                  73.5%; Score 1788; DB 1; 74.0%; Pred. No. 3.7e-130; ive 47; Mismatches 61;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    539 AA
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                                                                                                                             57205 MW;
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37
478
499
510
73
73
226
291
333
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17
38
479
500
73
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231
423
457
510 AA;
                                                                                                                                                                 Similarity
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SEQUENCE FROM N.A.
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                                      DOMAIN
CARBOHYD
CARBOHYD
                                                                          CARBOHYD
CARBOHYD
CARBOHYD
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                                                                                                               CARBOHYD
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                          192
 TRANSMEM
DOMAIN
                         TRANSMEM
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SEQUENCE FROM N.A.

SEQUENCE FROM N.A.

Adachi J., Alzawa K., Akimura T., Arakawa T., Bono H., Carninci P.,
Adachi J., Alzawa K., Akimura T., Hara A., Hashizume W.,
Hayashida K., Hayatsu N., Hiramoto K., Hiraoka T., Hirozane T.,
Hori P., Imotani K., Ishii Y., Itoh M., Kagawa I., Kouda M.,
Katoh H., Kawai J., Kojima Y., Kondo S., Komno H., Kouda M.,
Nathihara C., Matsuyama T., Miyazaki A., Murata M., Nakamura M.,
Nishi K., Nomura K., Numazaki R., Ohno M., Ohsato N., Oksato N.,
Saito H., Saitoh H., Sakai C., Sakai K., Sakazume N., Sano H.,
A Sasaki D., Shibata K., Shinagawa A., Shiraki T., Sogabe Y., Tagami M.,
Tagawa A., Takahashi F., Takaku-Akahira S., Takeda Y., Tanaka T.,
Toya T., Yasunishi A., Muramatsu M., Hayashizaki Y.,
The Mill, AKO29512; BAC26486.1; --
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          65 GLTQNKPLPENVK----YGIVLDAGSSHTNLYIYKWPAEKENDTGVVQQLEECQVKGPGI 120
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                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
STRAINE-2059174; PubMed=1101/2159; DOI=10.1101/gr.145100;
MEDLINE-20499374; PubMed=1101/2159; DOI=10.1101/gr.145100;
Carninci P., Shibata Y., Hayatsu N., Sugahara Y., Shibata K., Itoh M.,
Konno H., Okazaki Y., Muramatsu M., Hayashizaki Y.;
Wormalization and subtraction of cap-trapper-selected cDNAs to
prepare full-length cDNA libraries for rapid discovery of new genes.";
Genome Res. 10:1617-1630(2000).
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GO; GO:0016021; C:ntegral tamina; IDA...

GO; GO:0016021; C:ntegral tambrane; TAS...

GO; GO:0004050; P:apyrase activity; IDA...

GO; GO:0005186; P:G-protein coupled coupled coupled coupled coupled coupled coupled coupled coupled; P:phatelet activation; IDA...

GO; GO:000181; P:phatelet activation; IDA...

GO; GO:000181; P:purine ribonucleoside diphosphate catabolism; IDA...
                                                                                                                                       SEQUENCE FROM N.A.
STRAIN=CSTBAL/61; TISSUE=Testis;
STRAIN=CSTBAL/61; TISSUE=Testis;
The FANTOM Consortium,
the RIKEN Genome Exploration Research Group Phase I & II Team;
"Analysis of the mouse transcriptome based on functional annotation of 60,770 full-length cDNAs.";
Nature 420:563-573(2002).
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MEDLINE=C57BL/GJ; TISSUB=Testis;
MEDLINE=20530913; PubMed=11076861; DOI=10.1101/gr.152600;
MEDLINE=20530913; PubMed=11076861; DOI=10.1101/gr.152600;
Shibata K., Itch M., Aizwaw K., Nagaoka S., Sasaki N., Carninci P., Shibata K., Itch M., Akiyama J., Nishi K., Kiteunai T., Tashiro H., Itch M., Sumi N., Ishii Y., Nakamura S., Hazama M., Nishine T., Harada A., Yamamoto R., Matsumoco H., Sakaguchi S., Ikegami T., Kanhiwagi K., Pujiwake S., Inoue K., Togawa Y., Izawa M., Ohara B., Watshiki M., Yohada Y., Ishikawa T., Ozawa K., Tanaka T., Matsuura S., Kawai J., Yohada Y., Muramatsu M., Inoue Y., Kira A., Hayashizaki Y., Rawai J., Rikzki Ninegarted sequence analysis (RISA) system-384-format sequencing pipeline with 384 multicapillary sequencer.";
                                                    "Functional annotation of a full-length mouse cDNA collection."; Nature 409:685-690(2001).
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STRAIN=C57BL/6J; TISSUE=Testis;
MEDLINE=21085660; PubMed=11217851; DOI=10.1038/35055500;
RIKEN FANTOM Consortium;
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Best Local Similarity 74.0%; Pred. No. 4e-130;
Matches 331; Conservative 47; Mismatches 6
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MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;

Strauberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,

MISCALLIS E.D., Collins F.S., Wagner L., Schaefer C.F., Bhat N.R.,

Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.R.,

Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

D. Matchenco L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,

Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,

Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,

Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

Wilalon D.K., Muzny D.M., Sodergren B.J., Lu X., Gibbs R.A.,

Pahey J., Helton E., Ketreman M., Madan A., Rodrigues S., Sanchez A.,

Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,

Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,

Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,

Mones S.J., Marra M.A.;

"Generation and initial analysis of more than 15,000 full-length human
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Sciurognathi, Muridae; Murinae; Mus.
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Last annotation update)
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STRAIN=CZECH II; TISSUE=Mammary tumor;
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Mammalia; Butheria; Rodentia;
NCBI_TaxID=10090;
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01-OCT-2003 (TrEMBLrel. 25
Entpdl protein.
Name-Entpdl;
Mus musculus (Mouse).
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GO; GO:0005605; C:hasal lamina; IDA.
GO; GO:0016021; C:integral to membrane; TAS.
GO; GO:0016021; C:integral to membrane; TAS.
GO; GO:0004050; F:apyrase activity; IDA.
GO; GO:0007186; P:G-protein coupled receptor protein signalin. .; IDA.
GO; GO:0030188; P:platelat activation; IDA.
GO; GO:0009181; P:platelat activation; IDA.
GO; GO:001150; GDAL CD39; I.
PROSITE; PSOL238; GDAL CD39 MTPASE; 1.
crothner 510 AA; 57176 MW; E77BB644AE1413A0 CRC64;
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
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16-OCT-2001 (Rel. 40, Last sequence update)
25-OCT-2004 (Rel. 45, Last annotation update)
Ectonucleoside triphosphate diphosphohydrolase 1 (EC 3.6.1.5)
(WTPDasel) (Ecto-ATP diphosphohydrolase) (ATPDase) (Lymphoid activation antigen) (Ecto-apprase) (CD39 antigen).
Name=Entpdl; Synonyms-Cd39;
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SEQUENCE FROM N.A., AND CHARACTERIZATION.SPERMIN-Sprague-Dawley; TISSUE-Brain, and Hippocampus;
PubMed=9221928;
                                                                                                                                                                                                                                                                                                                                                                                     62;
                                                                                                                                                                                                                                                                                                                           73.3%; Score 1783; DB 2; 73.8%; Pred. No. 9.1e-130; ive 47; Mismatches 62;
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Brain Res. Mol. Brain Res. 47:295-302(1997)
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Best Local Similarity 73.8%
Matches 330; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         72 SKFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRILRMESEELADRVLDV 131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     92 SKYAQKTDEIAAYLAECMKMSTERIPASKQHQTPVXLGATAGMRLLRMESKQSADEVLAA 151
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 36 GLTHNKPLPENVK----YGIVLDAGSSHTNLYIYKWPAEKENDTGVVQLLEECQVKGPGI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
SEQUENCE FROM N.A.
STRAIN=Wistar; TISSUE=Cochlea;
MEDLINE=20050856; PubMed=10581401; DOI=10.1016/S0169-328X(99)00244-2;
Vlajkovic S.M., Housley G.D., Greenwood D., Thorne P.R.;
"Evidence for alternative spliting of ecto-ATPase associated with termination of purinergic transmission.";
Eramin Res. Mol. Brain Res. 73:85-92(1999).
                                                                                                                                                        STRAIN=Sprague-Dawley; TISSUE-Brain; MEDLINE=98031057; PubMed=9364474; DOI=10.1016/S0028-3908(97)00115-9; Kegel B., Braun N., Heine P., Maliszewski C.R., Zimmermann H.; "An ecto-ATPase and an ecto-ATP diphosphohydrolase are expressed in rat brain.";
                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL; 11250.
RGD; 62665; Entpdl.
RGD; 62665; Entpdl.
InterPro; IPR000407; GDA1 CD39 NTPase.
Pfam; PF01150; GDA1 CD39, 1.
PROSITE; PS01238; GDA1 CD39 NTPASE; 1.
Antigen; Calcium; Glycoprofer Hydrolase; Magnesium; Transmembrane.
DOWAIN 1 16 Cytoplasmic (Potential).
37 Potential.
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                                                                                                                                                                                                                                                                                 PTM: N-glycosylated.
SIMILARITY: Belongs to the GDA1 / CD39 NTPase family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Extracellular (Potential).
Potential.
Cytoplasmic (Potential).
N-linked (GLGNAc. ...) (Pote.
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                                                                                            SEQUENCE OF 432-511 FROM N.A.
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LDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQ
                                                            312 LFNTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFL-NLTSEKV-SQEKVTEMMKKF
                                                                                                                                                                                                                                                                                                                                                                                                                                                   diphosphohydrolase.";
J. Biol. Chem. 271:33116-33122(1996).
I. Biol. Chem. 271:33116-33122(1996).
I. Biol. Chem. 271:33116-33122(1996).
I. Biol. Chem. 271:33116-33122(1996).
I. Chem. 271:33116-33122(1996).
I. Chem. 271:33116-33122(1996).
I. Chem. 271:33116-33122(1996).
I. Chem. 271:3717.
I. Chem. 271:3717.
I. Chem. 271:3717.
I. Chem. 271:3717.
I. SUBCNIT: Homodimer; disulfide-linked (By similarity).
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Lemmens R., Vanduffel L., Kittel A., Beaudoin A.R., Benrezzak O.,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               16-OCT-2001 (Rel. 40, Last sequence update)
05-UUL-2004 (Rel. 44, Last annotation update)
Ectonucleoside triphosphate diphosphohydrolase 1 (EC 3.6.1.5)
(MYPDasel) (Ecto-ATP diphosphohydrolase) (ATPDase) (Lymphoid activation antigen) (Ecto-apyrase) (CD39 antigen).
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SIMILARITY: Belongs to the GDA1 / CD39 NTPase family.
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Mammalia, Butheria, Cetartiodactyla, Suina, Suidae,
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triphosphate diphosphohydrolase-1.";
Eur. J. Biochem. 267:4106-4114(2000)
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Name=ENTPD1; Synonyms=CD39;
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commercial
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             212 LDLGGASTQITFVPQNQVLESPENTLHFRLYGKNYSVYTHSFLCYGKDQALLQKLTKDLK 271
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InterPro; IPR004047; GDA1_CD39_NTPase.
PFAM; PF01150; GDA1_CD39,1.
PROSITE; PS01238; GDA1_CD39_NTPASE; 1.
Antigen; Calcium; Direct protein sequencing; Glycoprotein; Hydrolase;
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Potential.

Cytoplasmic (Potential).

N-linked (GICNAC. .) (Potential).

N-linked (GICNAC. .) (Potential).

N-linked (GICNAC. .) (Potential).

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Ectonucleoside triphosphate
diphosphohydrolase 1 27 kDa subunit.
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 and
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                                                                                                                                                                      Ectonucleoside triphosphate diphosphohydrolase 1 54 kDa
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  Usage by
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82F86869040D7735 CRC64;
                                                                                                                                                                                              Cytoplasmic (Potential).
Potential.
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 modified and this statement is not removed.
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           entities requires a license agreement (or send an email to license@isb-sib.ch)
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ID ENPI_BOVIN STANDARD;
AC D19556;
DT 16-OCT-2001 (Rel. 40, Created)
                                                                                                                                                                                                                                                                                                                                                         57757 MW;
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                                                                                               Antigen; Calcium; Direct
Magnesium; Transmembrane.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PROSITE; PS01238; GDA1 CD39 NTPASE; 1.
Antigen; Calcium; Direct protein sequencing; Glycoprotein; Hydrolase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                        diphosphohydrolase.",
J. Biol. Chem. 271:33116-33122(1996).
I. FUNCTION: In the nervous system, could hydrolyze ATP and other nucleotides to regulate purinergic neurotransmission. Could als be implicated in the prevention of platelet aggregation. Hydrolyzes ATP and ADP equally well.
I. CATALYTIC ACTIVITY: ATP + 2 H(2)0 = AMP + 2 phosphate.
II. CORACTOR: Requires calcium and magnesium.
III. SUBUNIT: Homodimer; disulfide-linked (By minlarity).
II. SUBCELLULAR LOCATION: Integral membrane protein (Potential).
II. SIMILARITY: Belongs to the GDAl / CD39 NTPase family.
                                                                                                     Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Butheria, Cetartiodactyla, Ruminantia, Pecora, Bovidae,
Bovinae, Bos.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (Potential).
(Potential).
(Potential).
(Potential).
                                                                                                                                                                                                                                                                                                                          MEDLINE=97115858; PubMed=8955160; DOI=10.1074/jbc.271.51.33116; Racamarek B.; Koziak K.; Sevigny J.; Siegel J.B.; Anrather J.; Beaudoin A.R.; Bach F.H.; Robson S.C.; "Identification and characterization of CD39/vascular ATP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               6
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16-OCT-2001 (Rel. 40, Last sequence update)
05-UUL-2004 (Rel. 44, Last annotation update)
Ectonucleoside triphosphate diphosphohydrolase 1 (EC 3.6.1.5)
(MTPDasel) (Ecto-ATP diphosphohydrolase) (ATPDase) (Lymphoid activation antigen) (CD39 antigen) (Ecto-apyrase).
                                                                                                                                                                                                                                                                                           SEQUENCE OF 97-103; 123-133; 136-140; 145-168 AND 459-471.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1; Length
                                                                                                                                                                                                                                        Chang A.S., Garcia R.L., Chang S.M., Schilling W.P.;
Submitted (MAY-1997) to the EMBL/GenBank/DDBJ databases.
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Cytoplasmic (Potential).
N-linked (GloNac. .) (Pot. N-linked (GloNac. .) (Pot. N-linked (GloNac. .) (Pot. N-linked (GloNac. .) (Pot. N-linked (GloNac. .) (Pot. N-linked (GloNac. .) (Pot. N-linked (GloNac. .) (Pot. N-linked (GloNac. .) (Pot. N-linked (GloNac. .) (Pot. K -> N (in Ref. 2).
Inv -> CGF (in Ref. 2).
K -> V (in Ref. 2).
K -> V (in Ref. 2).
K -> V (in Ref. 2).
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Extracellular (Potential).
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Pred. No. 1.2e-118;
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                                                                                  Name=ENTPD1; Synonyms=CD39;
Bos taurus (Bovine).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STRAIN=CS7BL/60; TISSUE=Skin;

MEDLINE=99279253; PubMed=10349636; DOI=10.1016/S0076-6879(99)03004-9;

Carninci P., Hayashizaki Y.;

High-efficiency full-length cDNA cloning.";

Meth. Enzymol. 303:19-44(1999).
                              SKFVQKYNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDV
                                                                                                                                                    VERSLSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-WAR-2003 (TrEMBLrel. 23, Created)
01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
Mus musculus; 10 days neonate skin cDNA, RIKEN full-length enriched
11brary, clohe:4732419M16 product:ectonucleoside triphosphate
diphosphohydrolase 1, full insert sequence. (Fragment).
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Sciurognathi; Muridae; Murinae; Mus
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STRAIN=CS7BL/6J; IISSUE=Skin;
MEDLINE=21085660; PubMed=11217851; DOI=10.1038/35055500;
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Mammalia, Butheria; Rodentia;
NCBI_TaxID=10090;
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STRAIN-G57BL/6J; TISSUE-Skin;
The FANTOM COMBOTTIUM,
the RIKEN Genome Exploration
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Nature 420:563-573(2002).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STRAIN-CSTRL/63, TISSUE-SKin;
Adachi J. Aizawa K., Akimura T., Arakawa T., Bono H., Carninci P., Adachi J., Aizawa K., Akimura T., Hara A., Hashizume W., Hanagaki T., Hara A., Hashizume W., Haryatsu N., Hanagaki T., Hirozane T., Hayatsu K., Hayatsu Y., Ishii Y., Itoh M., Kagawa I., Kawai U.; Kojima Y., Konno H., Kodawa T., Kawai U., Kojima Y., Konno H., Kodawa T., Koya Kurihara C., Mareuyama T., Miyazaki A., Murata M., Nakamura M., Nishi K., Nomura K., Numazaki R., Ohno M., Ohsato N., Okazaki Y., A Saito H., Saito H., Sakai C., Sakazume N., Sanch H., Saito H., Shinagawa A., Shiraki T., Sogabe Y., Tagami M., Tagawa A., Takahashi F., Takaku-Akahira S., Takeda Y., Tanaka T., Toya T., Yasunishi A., Muramatsu M., Hayashizaki Y.; Submitted (JUL-2001) to the EMBL/GenBank/DDBJ databases.
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MCD: MCI:102805; Entpdl.

GO; GO:00166021; C:integral to membrane; TAS.

GO; GO:0016021; C:integral to membrane; TAS.

GO; GO:0004050; F:apyrase activity; IDA.

GO; GO:0007186; P:G-protein coupled receptor protein signalin. . .; IDA.

GO; GO:0007186; P:platelet activation; IDA.

GO; GO:0009181; P:platelet activation; IDA.

GO; GO:0009181; P:purine ribonucleoside diphosphate catabolism; IDA.
"Normalization and subtraction of cap-trapper-selected cDNAs to prepare full-length cDNA libraries for rapid discovery of new genes."; Genome Res. 10:1617-1630(2000).
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SEQUENCE FROM N.A.

SEQUENCE FROM N.A.

STRAIN=C57BL/6J; TISSUB=SKin;

Shibata K., Itch M., Airawa K., Nagaoka S., Sasaki N., Carninci P.,

A MEDLINE=20530913; Pubmed=11076861; DOI=10.1101/gr.152600;

A Konno H., Akiyama J., Nishi K., Kitsunai T., Tashiro H., Itch M.,

Sumi N., Ishii Y., Nakamura S., Hazama M., Nishine T., Harada A.,

A Yamamoto R., Matsumoto H., Sakaguchi S., Ikegami T., Kashiwagi K.,

A Pujiwake S., Inoue K., Togawa Y., Izawa M., Ohara E., Watchiki M.,

A Yoneda Y., Ishikawa T., Ozawa K., Tanaka T., Matsuura S., Kawai J.,

Okazaki Y., Muramateu M., Inoue Y., Kira A., Hayashizaki Y.;

CARANI Integrated sequence analysis (RISA) system-384-format

Sequencing pipeline with 384 multicapillary sequencer.";
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Best Local Similarity 74.54
Matches 289; Conservative
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Dev. Dyn. 225:384-391 (2002).
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Klein S., Gerhard D.S.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Xenopodinae, Xenopus.
NCBI_TaxID=8355;
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Name=MGC80631;
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We Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,

Bubmed=1247932; DOI=10.1073/pnas.242603899;

Ratausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,

Altsuchul S.F., Collins F.S., Wagner L., Shemen C.M., Schuler G.D.,

Altschul S.F., Joedan H., Moore T., Max S.I., Wang J., Haieh F.,

Diatchench L., Marusina K., Farmer A.A., Walbin G.M., Hong L.,

Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,

Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Guarathe P.H.,

Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

Nilalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,

Rahesley R.W., Touchman J.W., Green E.D., Dickson M.C.,

Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,

Annishski M.I., Skaleka U., Smailus D.E., Schnerch A., Schein J.E.,

Annish Marra M.A.;

T. "Generation and initial analysis of more than 15,000 full-length human
48 PAEKENDTGVVHQVEECRVKGPGISKFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVY 107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LGATAGMRILLRMESEELADRVLDVVERSLSNYPPDFQGARIITGQEEGAYGWITINYLLG 167
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                                                                                                                                                                                25-OCT-2004 (TrEMBLrel. 28, Last annotation update)
Entpdl-prov protein.
Mame=entpdl-prov)
Name=entpdl-prov)
Name=entpdl-prov)
Name=entpdl-prov)
Name=entpdl-prov)
Name=entpdl-provi
Netazoa; (Western clawed frog) (Silurana tropicalis).
Bukaryota; Netazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           58.2%; Score 1416; DB 2; Length 508; 56.0%; Pred. No. 2.7e-101; ive 82; Mismatches 106; Indels 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SECUENCE.

TISSUE-Embryo;

X Klein S., Gerhard D.S.;

L Submitted (JUL-2004) to the EMBL/GenBank/DDBJ databases.

R GOT GO:0016787; F:hydrolase activity; IEA.

R InterPro; IPR00407; GDA1 CD39 NTPASE.

R Fam, PF01150; GDA1 CD39, NTPASE.

DR PROSITE; PS01238; GDA1 CD39, NTPASE; 1.

SEQUENCE 508 AA; 57322 MW; 12CAEACOSBEABDEB CRC64;
                                                                                                                                                                          Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
                                                                                                                                    508 AA
                                         GWTLGYMLNLTNMIPAEQPLSTPLSHST 456
                                                         359 GWTLGYMLNLTNMIPAEQPLSPPLPHST 386
                                                                                                                                                            Created)
                                                                                                                                  PRT;
                                                                                                                                                         25-OCT-2004 (TrEMBLrel. 28, 25-OCT-2004 (TrEMBLrel. 28, 25-OCT-2004 (TrEMBLrel. 28,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        sequences.
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                                                                                                                                  PRELIMINARY;
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                                                                                                                                                                                                                                                                              NCBI_TaxID=8364,
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**X TASUB-SPICER;

**MEDLINE=2238825; PubMed=12477932; DOI=10.1073/pnas.242603899;

**Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,

**Altschul S.F., Zeeberg B. Buetow K.H., Schaefer C.F., Bhat N.K.,

**Altschul S.F., Zeeberg B. Buetow K.H., Schaefer C.F., Bhat N.K.,

**Altschul S.F., Zeeberg B. Buetow K.H., Schaefer C.F., Bhat N.K.,

**A Altschul S.F., Zeeberg B. Buetow K.H., Schaefer C.F., Bhat N.K.,

**A Altschul S.F., Zeeberg B. Buetow K.H., Schaefer C.F., Bhat N.K.,

**A Altschul S.F., Zeeberg B. Buetow K.H., Schaefer C.F., Bhat N.K.,

**A Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,

**Brownstein M.J., Usdin T.B., Tooshiyuki S., Carninci P., Prange C.,

**A Raba S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,

**Bosak S.A., McKwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,

**A Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

**A Nichard M. Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,

**Multing M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,

**A Rodiyuez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,

**A Nones S.J., Marra M.A.,

**Jones S.J., Marra M.A.,

**Jones S.J., Marra M.A.,

**A Dones S.J., Marra M.A.,

**A Dones S.J., Marra M.A.,

**A Dones S.J., Marra M.A.,

**A Dones S.J., Marra M.A.,

**A Dones S.J., Marra M.A.,

**A Dones S.J., Marra M.A.,

**A Dones S.J., Marra M.A.,

**A Dones S.J., Marra M.A.,

**A Dones S.J., Marra M.A.,

**A Dones S.J., Marra M.A.,

**A Dones S.J., Marra M.A.,

**A Dones S.J., Marra M.A.,

**A Dones S.J., Marra M.A.,

**A Dones S.J., Marra M.A.,

**A Dones S.J., Marra M.A.,

**A Dones S.J., Marra M.A.,

**A Dones S.J., Marra M.A.,

**A Dones S.J., Marra M.A.,

**A Dones S.J., Marra M.A.,

**A Dones S.J., Marra M.A.,

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**A Dones S.J., Marra M.A.,

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**A Dones S.J., Marra M.A.,

**A Dones S.J., Marra M.A.,

**A Dones S.J., Marra M.A.,

**A Dones S.J., 
168 KFSQKTRWFSIVPYETNNQETFGALDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYN 227
                                                                228 VYTHSFLCYGKDQALWQKLAKDIQVASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEM 287
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Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
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MEDLINE=22341132; PubMed=12454917; DOI=10.1002/dvdy.10174;
Klein S.L., Strausberg R.L., Wagner L., Pontius J., Clifton S.W.,
Richardson P.;
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05-JUL-2004 (TrEMBLrel. 27, Last sequence update)
05-JUL-2004 (TrEMBLrel. 27, Last annotation update)
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Local Similarity 54.8% (es 252; Conservative
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DT 05-JU
DT 05-JU
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PubMed=12477932; DOI=10.1073/pnas.242603899;
Straubberg R.L., Feingeld E.A., Grouse L.H., Derge J.G.,
Straubberg R.L., Feingeld E.A., Grouse L.H., Derge J.G.,
Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
Altschul R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
Stapleton M.J., Usdin T.B., Toshiyuki S., Carainci P., Prange C.,
Brownstein M.J., Usdin T.B., Toshiyuki S., Carainci P., Prange C.,
Broas S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullaby S.J.,
Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
                                                                                                                                                                                                                                       LGALFPLGVIALVTIAVVQNKPLPRNIKYGIVLDAGSSHTSVYIYEWPSEKENDTGVVQQ
                                                                                                                                                                                                                                                                            SEBLADRVLDVVERSLSNYPFDFQGARIITGQBEGAYGWITINYLLGKFSQKTRWFSIVP
                                                                                                                                                                                                                                                                                           141 NATWAEEVLSSVENMLRSFPFDFQGARIITGQEEGAYGWITINYLLGNFIQDSGWFKYMP
                                                                                                                                                                                                                                                                                                                                  181 YETUNQETFGALDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQ
                                                                                                                                                                 15 LSSMXPINVSA-----STLYGIVLDAGSSHTSLYIYKWPAEKENDIGVVHQ
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Brachydanio rerio (Zebrafish) (Danio rerio).

Brachydanio rerio (Zebrafish) (Danio rerio).

Bukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;

Cyprinidae; Danio.

NCBI_TAXID=7955;
                                                                                                                                          Gaps
                                                                                                                                         16;
                                                                                                             Length 508;
                                                                                                             56.7%; Score 1379; DB 2; Length 56
56.1%; Pred. No. 2e-98;
ive 74; Mismatches 110; Indels
    to the EMBL/GenBank/DDBJ databases
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Last annotation update)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           439 GKIKDSDAGWTLGYMLNLTNMIPAELPYSPPLSHAT 474
                                                                        5A1 CD39 NTPASE; 1.
57049 MW; BD205818A06C523B
Submitted (JUN-2004) LC LL.

EMBL; BC073267; AAH73267.1; -.

GO; GO:0016787; F:hydrolase activity; IEA.

InterPro; IPR00407; GDAL CD39_NTPase.

Pfam; PF01150; GDAL CD39_NTPASE; 1.

R PROSITE; PS01238; GDAL CD39_NTPASE; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 74
Villalon D.K., Muzny D.M., Sodergren E.J., Iu X., Gibbs R.A., Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A., Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G., Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C., Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S., Krzywinski M.I., Skalska U., Smailus D.E., Schnerch A., Schein J.E., Jones S.J., Marra M.A.; "Generation and initial analysis of more than 15,000 full-length human and mouse CDNA sequences.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BKVSQEKVTEMMKKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              239 DQALWQKLAKDIQVASNE----ILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             59 HOVEECRVKGPGISKFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        119 MESEELADRVLDVVERSLSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                179 VPYETNNQETFGALDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        13 IFLSSMXPIN----VSASTL-----YGIVLDAGSSHTSLYIYKWPAEKENDTGVV
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Mammalia; Butheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
NCBI_TaxID=10090;
[1]
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05-JUL-2004 (TrEMBLrel. 27, Last annotation update)
Nucleoside triphosphate diphosphohydrolase-8 (EC 3.6.1.5)
Name-Entpd8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          52.7%; Score 1280.5; DB 2; Length 54.8%; Pred. No. 8.5e-91; ive 66; Mismatches 105; Indels
                                                                                                                                                                                                                                                                                                                                 Director MGC Project;
Submitted (JUL-2004) to the EMBL/GenBank/DDBJ databases.
EMBL, BC078240; AHM78240.1;
GO; GO:0016787; F:hydrolase activity; IEA.
InterPro; IPR000407; GDAl_CD39_NTPase.
Pfam; PF01150; GDAl_CD39_1.
PROSTIE; PS011238; GDAl_CD39_NTPASE; 1.
SEQUENCE 492 AA; 55507 MW; B789AB6DFC6A032B CRC64;
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                                                                                                                                                                                                                                                                                                           STRAIN-Singapore local strain; TISSUE=Embryo;
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                                                                                                                                                                                                                                                                                                                                                                     FSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8 TWFEGIFLSSM------XPINV--SASTLYGIVLDAGSSHTSLYIYKWPA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTSYCP-YSQCAFNGIFLPPLQGDFGA
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Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
SEQUENCE FROM N.A.
STRAIN-CS7BL/6; TISSUE=Liver;
Bigonnesse F., Levesque S.A., Kukulski F., Lecka J., Robson S.C.,
Pernandes M.J.G., Sevigny J.;
Submitted (AUG-2003) to the EMBL/GenBank/DDBJ databases.
EMBL; AY364442; AAQ84519-11;
GO; GO:0004050; Fapyrase activity; IEA.
GO; GO:0016787; F:hydrolase activity; IEA.
Interpro; IPR000407; GDA1_CD39_NTPase.
Pfam; PF01150; GDA1_CD39_IT.
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Locor-2001 (Rel. 40, Last sequence update)
05-UTL-2004 (Rel. 44, Last annotation update)
Ectonucleoside triphosphate diphosphohydrolase 1 (EC 3.6.1.5)
RCTONUCLEO-ATP diphosphohydrolase) (Arpbase)
activation antigen) (Ecto-apyrase) (CD39 antigen).
Name-ENTPD1; Synonyms-CD39;
                                                                                                                                                                                                                                                                                                            40;
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MEDLINE=98298108; PubMed=9632655; DOI=10.1074/jbc.273.26.16043;
                                                                                                                                                                                                                                                                   42.8%; Score 1040; DB 2; Length 497; 45.7%; Pred. No. 4e-72; tive 79; Mismatches 135; Indels 4
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                                                                                                                                                                                                                                497 AA; 54650 MW; 00DE822B6EEB1BDF CRC64;
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"Molecular cloning of the chicken oviduct ecto-ATP
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                                                                                                                                                                                          PROSITE; PS01238; GDA1_CD39_NTPASE; 1.
                                                                                                                                                                                                                                                                                       Best Local Similarity 45.7
Matches 214; Conservative
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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation-the Buropean Bioinformatics Institute. There are no restrictions on its use by non-profit timetiutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      146
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                                                                                                                                 Lewis-Carl S., Kirley T.L.;

"Immunolocalization of the ecto-ATPase and ecto-apyrase in chicken gizzard and stoomach. Purification and N-terminal sequence of the gizzard and stoomach. Purification and N-terminal sequence of the stoomach ecto-apyrase.";

"J. Biol. Chem. 272:23645-23652(1997).

"J. Biol. Chem. 272:23645-23652(1997).

"Inclorides to regulate purinergic neurotransmission. Could also be implicated in the prevention of platelet aggregation. Hydrolyses ATP and ADP equally well (By similarity).

"J. CATALYTIC ACTIVITY: ATP + 2 H(2)0 = AMP + 2 phosphate.

"J. CATALYTIC ACTIVITY: ATP + 2 H(2)0 = AMP + 2 phosphate.

"J. SUBCELLULAR LOCATION: Integral membrane protein (Potential).

"J. STMILARITY: Belongs to the GDA1 / CD39 NTPase family.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        InterPro; IPR000407; GDA1_CD39_NTPase.
Pfam; PF01150; GDA1_CD39_1.
PROSITE; PS01238; GDA1_CD39_NTPASE; 1.
Antigen; Calcium; Direct protein sequencing; Glycoprotein; Hydrolase;
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                                                                                                                  MEDLINE=97442428; PubMed=9295305; DOI=10.1074/jbc.272.38.23645;
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Extracellular (Potential).
Potential.
Cytoplasmic (Potential).
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N-linked (GlcNAc. .) (Pot
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I -> G (in Ref. 1;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    entities requires a license agreement (Se
or send an email to license@isb-sib.ch).
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iphosphohydrolase.";
Biol. Chem. 273:16043-16049(1998)
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nes 194; Conservative
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VPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQA---LWQKLAKDIQVASNEILRD 260

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                                                                                  PCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTSYCFY 320
                                                                                                                 381 YAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLNLTN 440
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                                                                                                                                                                                                       SQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEEIKTS 380
                                                                                                                                                                                                                                                              331 RIČGFDGVYQPPVRGQFFAFAGFYYTFSFLNLÍGQQ-SLSHVNATVWDFCNKNWSELVET 389
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Knowles A.F., Nagy A.K., Strobel R.S., Wu-Weis M.;
Knowles A.F., Nagy A.K., Strobel R.S., Wu-Weis M.;
"Purification, characterization, cloning, and expression of the
chicken liver ecto-Arr-dphosphohydrolase.";
Eur. J. Blochem. 269:2373-2382(2002)
EMBL; AF426405; AAL25086.1;
GO; GO:0004050; Fiapyrase activity; IEA.
GO; GO:0016787; Filydrolase activity; IEA.
Pfam; PF01150; GDA1_DD39:1.
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01-DEC-2001 (TrEMBLrel. 19, Created)
01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
1-UUN-2003 (TrEMBLrel. 24, Last annotation update)
Ecto-Arp-diphosphohydrolase (EC 3.6.1.5).
Gallus gallus (Chicken).
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        AAY70913
        Aay70913
        Human sol

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        AAY70922
        Aay70902
        Human sol

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        94.3
        464
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        AAY70922
        Aay70925
        Human sol

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        2294
        94.3
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        AAY70922
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        Human sol

        32
        2294
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        AAY70924
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        Aay70924
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ALIGNMENTS

soluble CD39; ADP-induced platelet activation; platelet aggregation; unstable angina; myocardial infarction, stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; precelampsia; embolism; platelet-associated ischaemic disorder; lung ischaemia; thrombolytic; coronary ischaemia; cerebral ischaemia; coronary artery thrombosis; peripheral artery thrombosis; intracardiac thrombosis, renous thrombosis; peripheral artery thrombosis; coaquiopathy; deep venous thrombosis; PB; pulmonary embolism; transient ischaemic attack; thrombosis porclusion; reocclusion; stenosis; restenosis; antianginal; cardiant;

cerebroprotective; antiarteriosclerotic; vasotropic; anticoagulant; thrombotic disorder; vascular occlusion.

/note= "Any amino acid preferably Cys or Ser"

"Derived from CD39-L4"

20. .21 1. .48 /note=

Cleavage-site 20. Misc-difference 39

Region

Location/Qualifiers

sapiens.

Ношо

Synthetic.

Region

49. .476 /note= "Soluble portion of CD39"

WO200023094-A2

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The present sequence is a fusion protein construct CD39-L4-2/3, comprising the human CD39-L4 N-terminal region and soluble CD39 protein. CC comprising the human CD39-L4 N-terminal region and soluble CD39 protein. CD39-L4 is a secreted apyrase, belonging to the CD39 family. Soluble CD39 cc is constructed by removal of N- and C-terminal transmembrane domains. It retains the capacity to metabolise ATP and ADP at relevant concentrations and the ability to block and reverse ADP-induced platelet activation and crecuminant, including platelet aggregation. Soluble CD39 polypeptides are useful for inhibiting angiogenesis. It is useful for the treatment of unstable angina, myocardial infarction, stroke, coronary artery disease or injury, atherosclerosis, peripheral vascular occlusion, precelampsia, coronary and cerebral ischaemia, thrombotic disorders including lung, peripheral and cerebral artery thrombosis, intracardiac and venous coronary and cerebral artery thrombosis, intracardiac and venous composis, coagulopathy, deep venous thrombosis (DY), pulmonary composis, coagulopathy, deep venous thrombosis (DY), pulmonary composis, coagulopathy, deep venous thrombosis (DY), pulmonary compositing thrombus formation or reformation, occlusion, reocclusion, cocclusion, occusion, coccusion, cocclusion, cocclusion, cocclusion, co
                        New soluble CD39 polypeptides having apyrase activity, useful for inhibiting angiogenesis and treating unstable angina, myocardial infarction, stroke, coronary artery disease or injury.
                                                                                                                                                                                                                         Claim 6; Pagè 91-93; 122pp; English
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                                                                                                                                    61 VEBCRVKGPGISKFVOKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRME 120
                                                                                                                                                         91 VEECRVKGPGISKFYQKVNEIGIYLTDCMERAREVIPRSQHQETFVYLGATAGWELLRME 140
                                                                                                                                                                                                      SEELADRVLDVVERSLSNYPPDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVP 180
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                                                                                         21 VSHRNQQTWFEGIFLSSMXPINVSASTLYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQ 80
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                                                                                                                                                                                                                                                                        YETINNQETFGALDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQ
                                                                                                                                                                                                                                                                                                 201 YETNNQETFGALDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQ
                                                                                                                                                                                                                                                                                                                                                             261 ALWOKLAKDIQVASNEILKDPCFHPGYKKVVNVSDLYKTFCTKRFEMTLFFQQFEIQGIG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NYQQCHQSILELFNTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQE
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                                   Gaps
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99.9%; Score 2430; DB 3; Length 476; 100.0%; Pred. No. 1.2e-238; ive 0; Mismatches 0; Indels (
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Inhibiting platelet activation and recruitment, useful for treating a mammal suffering from unstable angina, myocardial infarction, stroke, coronary artery disease or injury, comprises administering soluble CD39

Marcus AJ;

Gayle RB,

Maliszewski CR,

WPI; 2000-339518/29.

(CORR) CORNELL RES FOUND INC.

(IMMV) IMMUNEX CORP

98US-0104585P. 98US-0107466P. 99US-0149010P.

06-NOV-1998; 13-AUG-1999; 16-OCT-1998;

99WO-US023641.

13-OCT-1999;

27-APR-2000

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Sequence 476 AA;
                                                                           Query Match
360
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                                                         380
                                                                  GKIQGSDAGWILGYMLNLINMIPAEQPLSTPLSHST 476
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Protein encoded by CD39-L4 construct

(first entry)

17-AUG-2000

AAY70889;

AAY70889 standard; protein; 476

RESULT 2

421 441

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The present sequence is a fusion construct of human soluble CD39 encoded by CD39-L4-2 and CD39-L4-3 constructs. CD39-L4 is a secreted apyrase belonging to the CD39 family. The fusion construct is used for the captacity of soluble CD39 in CHO (chinese hamster ovary) cells. Soluble CD39 retains the capacity of wildtype CD39 to metabolise ATP and ADP at physiologically relevant concentrations as well as the ability to block and reverse ADP-induced platelet activation and recruitment including platelet aggregation. This is used in the treatment of unstable angina, myocardial infarction, stroke, coronary artery disease or injury, atherosclerosis, peripheral vascular occlusion, corpusation in the peripheral activation in the present including current ischaemia and cerebral ischaemia, a thrombotic disorder including coronary artery thrombosis, cerebral artery thrombotic thrombosis, thrombosis, carebral artery thrombosis, thrombosis, venous thrombosis, thrombosis, carebral artery thrombosis, thrombosis, carebral artery thrombosis, thrombosis, carebral artery thrombosis, thrombosis, carebral artery thrombosis, carebral artery thrombosis, carebral artery thrombosis, carebral artery thrombosis, carebral and carebral artery thrombosis, carebral artery thrombosis, carebral artery thrombosis, carebral artery thrombosis, carebral artery thrombosis, carebral artery thrombosis, carebral artery thrombosis, carebral artery thrombosis, carebral artery thrombosis, carebral artery thrombosis, carebral artery thrombosis, carebral and carebral artery thrombosis, carebral artery thrombosis, carebral artery thrombosis, carebral artery thrombosis, carebral artery thrombosis, carebral artery thrombosis, carebral artery thrombosis, carebral artery thrombosis, carebral artery thrombosis, carebral artery thrombosis, carebral artery thrombosis, carebral artery thrombosis, carebral artery thrombosis, carebral artery thrombosis, carebral artery thrombosis, carebral artery thrombosis, carebral artery thrombosis, carebral artery carebral artery t ö thrombosis, thrombosis, coagulopathy, deep venous thrombosis (DVT), pulmonary embolism (PE), transient ischaemic attack. Soluble CD39 is also useful for preventing thrombus formation or reformation, occlusion, reocclusion, stenosis or restenosis of blood vessels or stroke Gaps ö 99.9%; Score 2430; DB 3; Length 476; 100.0%; Pred. No. 1.2e-238; tive 0; Mismatches 0; Indels (Claim 6; Page 91-93; 118pp; English Conservative Similarity Best Local Sim Matches 456;

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AAY70888 standard; protein; 476
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                                                                                                                                               ALWOKLAKDIQVASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIG 300
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                VSHRNQQTWFEGIFLSSMXPINVSASTLYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQ
                                      VEECRVKGPGISKFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRME
                                                   YETNNQETFGALDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Human CD39-L4 protein N-terminal
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/note= "Human soluble CD39 protein"
                                                                                                                                                                                                                                                               441 GKIQGSDAGWTLGYMLNLTNMIPAEQPLSTPLSHST 476
                                                                                                                                                                                                                                                      GKIQGSDAGWTLGYMLNLTNMIPAEQPLSTPLSHST 456
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/note= "Cleavage site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                     Human CD39-L4-1 protein construct.
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98US-0107466P.
99US-0149010P.
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Synthetic.
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13-AUG-1999;
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The present sequence is a fusion protein construct CD19-L4-1, comprising the human CD39-L4 N-terminal region and soluble CD39 protein. CD39-L4 is a secreted apprase, belonging to the CD39 fundle CD39 is constructed by removing the N- and C-terminal transmembrane domains. It retains the capacity to metabolise ATP and ADP at relevant concentrations and the ability to block and reverse ADP-induced platelet activation and recruitment, including platelet agregation. Soluble CD39 polypeptides recruitment, including platelet aggregation. Soluble CD39 polypeptides are useful for inhibiting angiogenesis. It is useful for the treatment of unstable angina, myocardial infarction, stroke, coronary atterogelerosis, peripheral vascular occlusion, preeclampsia, compolism, platelet-associated ischaemic disorders including lung, coronary and cerebral ischaemia, thrombosis intracardiac and venous thrombosis, coagulopathy, deep venous thrombosis (DVT), pulmonary corpusation (PS) and transient ischaemic attack. Soluble CD39 is also useful for preventing thrombus formation or reformation, occlusion, reocclusion, stenosis or restenosis of blood vessels or stroke
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                                                                                                                                                                                                     New soluble CD39 polypeptides having apyrase activity, useful for inhibiting angiogenesis and treating unstable angina, myocardial
                                                                                                                                                                                                                                             inhibiting angiogenesis and treating unstable angina, myocardial infarction, stroke, coronary artery disease or injury.
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                                                                    Price VL,
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Best Local Similarity 97.6%;
Matches 445; Conservative
                                                                    Gayle RB,
(IMMV ) IMMUNEX CORP.
                                                                                                                                        WPI; 2000-339644/29.
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                                                                    Maliszewski CR,
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Soluble CD39; ADP-induced platelet activation; platelet aggregation; unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; preeclampsia; embolism; platelet-associated ischaemia cocclusion; preeclampsia; embolism; cerebral ischaemia; thrombotic disorder; lung ischaemia; thrombotis; cerebral artery thrombosis; intracardiac thrombosis; venous thrombosis; peripheral artery thrombosis; coaquiopathy; deep venous thrombosis; PE; pulmonary embolism; transient ischaemic attack; thrombosis; DVP; pulmonary embolism; transient ischaemic attack; thrombos formation; cecclusion; secoclusion; secoclusion; secoclusion; attacks; antianginal; cardiant; cerebroprotective; anniarteriosclerotic; vasotropic; anticoagulant; coronary ischaemia; vascular occlusion.
                                                                                                                                                                                                                                                                                       38. .476
/note= "Soluble portion of CD39"
                                                                                                                                                                                                                                                         . .37
note= "Derived from CD39-L4"
                                                     Protein encoded by CD39-L4-1 construct.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Maliszewski CR, Gayle RB, Marcus AJ;
                                                                                                                                                                                                                                           Location/Qualifiers
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06-NOV-1998;
                                17-AUG-2000
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                                                                                                                                                                                                                        Synthetic.
          AAY70888
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Inhibiting platelet activation and recruitment, useful for treating a mammal suffering from unstable angina, myocardial infarction, stroke, coronary artery disease or injury, comprises administering soluble CD39 polypeptides.

Claim 6; Page 89-91; 118pp; English.

The present sequence is a fusion construct of human soluble CD39 encoded by CD39-L4-1 construct. CD39-L4 is a secreted apyrase belonging to the CD39 family. The fusion construct is used for the expression and activity of soluble CD39 in CHO (chinese hamster ovary) cells. Soluble CD39 in CHO (chinese hamster ovary) cells. Soluble CD39 retains the capacity of wildtype CD39 to metabolise ATP and ADP at physiologically relevant concentrations as well as the ability to block physiologically relevant concentrations as well as the ability to block and reverse ADP-induced platelet activation and recruitment including platelet aggregation. This is used in the treatment of unstable angina, myocardial infarction, stroke, coronary attery disease or injury, atherosclerosis, peripheral vascular occlusion, preeclampsia, embolism, platelet-associated ischaemic disorder including lung ischaemic, coronary ischaemia and cerebral ischaemia, thrombosis, intracardiac thrombosis, peripheral artery thrombosis, thrombosis, intracardiac thrombosis, carperty thrombosis, carbon thrombosis, thrombosis, capalopathy, deep venous thrombosis, thrombosis, thrombosis, capalopathy, deep venous thrombosis, thrombosis, capacity also active thrombosis or capalopathy deep venous thrombosis, thrombosis, capacity for preventing thrombus formation or reformation, occlusion, reocclusion, stenosis or restenosis of blood vessels or stroke

Sequence 476 AA;

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                                                                                                                                                                                                       261 ALWOKLAKDIQVASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIG
                                                              11 VSHRNQQTWFEGIFLSSTQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQ
                                                                                                                                            SEELADRVLDVVERSLSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVP
                                                                                                                                                                                         YETINIQETFGALDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQ
                                                                                                                                                                                                                                                                                                  ATP diphosphohydrolase; ATPDase; bovine aorta; pig pancreas; apyrase; CD39; lymphoid cell activation antigen; enzyme; platelet aggregation; thrombogenicity; anti-haemostatic.
                                                                                                                                                                                                                                                                                                                                  KVTEMMKKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFI
                                             1 VSHRNQQTWFEGIFLSSMXPINVSASTLYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQ
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Length 476;
                      Indels
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Score 2373; DB 3;
Pred. No. 8.2e-233;
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                        2; Mismatches
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 Query Match 97.6%;
Best Local Similarity 97.6%;
Matches 445; Conservative
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   pancreatic (AAW04339) ATPDases have been partially sequenced. The sequences have been found to be highly homologous to a human lymphoid cell activation antigen designated CD39 (Maniszenski et at. (1994). J. Immunol.: 3574-3583). The complete sequences of the ATPDases types I and II have not been obtained yet. Assuming that the CD39 gene product is an ATPDase type II, the use of CD39 in the reduction of platelet aggregation and of thrombogenicity may be contemplated, as well as a process of making ATPDases using the CD39 sequence (AAT38516)
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                                                                                                                                                                                                                                                                                                                              Human; lymphocyte activation marker; gene therapy;
ATP diphosphohydrolase; transgenic animal; pig; porcine; graft; donor;
transplantation; endothelial cell; prosthetic device;
platelet aggregation; inhibition; intravascular.
                                                                                                                                                                         SKFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDV
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                                                                                                                                             Gaps
                                                                                                                        Length 510;
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                                                                                                                       / Match 94.4%; Score 2297; DB 2; Local Similarity 97.1%; Pred. No. 5.3e-225; les 432; Conservative 2; Mismatches 7;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                           Non-human transgenic or somatic recombinant mammals, whose cells contain a heterologous DNA encoding a polypeptide (especially human CD39 protein) having AFP-diphosphohydrolase activity under cellular activating conditions is claimed. In particular the animal is a pig and its colditions is claimed. In particular the animal is a pig and its chuman CD39 is also useful for genetically modifying a mammalian cell to render it less susceptible to an inflammatory or immunological stimulus and platelet aggregation. The modified cells can be used to prevent or alleviate a thrombotic condition. The present sequence is that of the human CD39 protein and was disclosed in J.Immunol. 153 (8) (1994) 3574-
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                                                                                                                                                                                                                                            Gene therapy of inflammatory or immunological stimulation of platelet aggregation - using CD39 protein with ATP disphospho:hydrolase activity, useful for preventing or alleviating thrombotic condition in mammalian
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                                   DEACONESS HOSPITAL
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                               NEW ENGLAND
                                                                                                                                                         WPI; 1996-455377/45
                                                                                            Bach FH, Robson S;
                                                                                                                                                                                  N-PSDB; AAT33966
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 510 AA;
SANDOZ
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N-PSDB; AAD00205.
                                                                                             WO200023459-A1
                                                                         Modified-site
                                                                             Modified-site
                                                                                                           16-OCT-1998;
06-NOV-1998;
13-AUG-1999;
                                                    Modified-site
                                                         Modified-site
                                                              Modified-site
                                                                   Modified-site
                                      Homo sapiens
                                                                                                       13-OCT-1999;
     17-AUG-2000
                                                                                                  27-APR-2000
AAY70910,
                                             Domain
                                                                                   Domain
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thrombosis, coagulopathy, deep venous thrombosis (DVT), pulmonary embolism (PE) and transient ischaemic attack. Soluble CD39 is also useful for preventing thrombus formation or reformation, occlusion, reocclusion, stenosis or restenosis of blood vessels or stroke
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                                                                                                                                         Sequence 510 AA;
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                                                                                                                                                                Soluble CD39; human; apyrame activity; platelet activation; inhibitor; unstable angina; myocardial infarction; stroke; coronary artery diseame; atherosclerosis; peripheral vascular occlusion; preeclampsia; embolism; platelet-associated ischaemic disorder; thrombotic disorder; reocclusion; coagulopathy; deep venous thrombosis; DVT; pulmonary embolism; PE; thrombus formation; occlusion; stenosis; restenosis; anglogenesis; antianginal; cerebroprotective; antiarteriosclerotic; anticoagulant;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      present sequence is the human soluble CD39 protein, a cell surface
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        New soluble DD39 polypeptides having apyrase activity, useful for inhibiting angiogenesis and treating unstable angina, myocardial infarction, stroke, coronary artery disease or injury.
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/note= "Asn is N-glycosylated"
292. 294
/note= "Asn is N-glycosylated"
334. 336
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/note= Asn is N-glycosylated"
457. 459
/note= Asn is N-glycosylated"
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/note= "C-terminal end"
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| Jabel= Transmembrane do
| Jabel= "N-terminal end"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                    cardiant; vasotropic; thrombolytic.
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98US-0107466P.
99US-0149010P.
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                                                                                                                         Human soluble CD39 protein.
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/label= Tr
                                                                       (first entry)
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                                                                                                                                                                                                                                                                                                                                                        111 IDLGGASTQVTFVPQNQTIBSPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQ 271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LENTSYCPYSOCAFNGIFLPPLOGDFGAFSAFYFVMKFLNLTSEKVSOEKVTEMMKKFCA 371
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   soluble CD39; ADP-induced platelet activation; platelet aggregation; unstable angina; myocardial infarction; stroke; coronary artery disease; atheroselerosis; peripheral vascular occlusion; precelampsia; embolism; platelet-associated ischaemic disorder; lung ischaemia; thrombolytic; cerebral ischaemia; thrombotic disorder; lung ischaemia; thrombosis; ererbral artery thrombosis; intracardiac thrombosis; varous thrombosis; peripheral artery thrombosis; intracardiac thrombosis; property thrombosis; coagulopathy; deep venous thrombosis; pripheral artery thrombosis; stenosis; restenosis; antianginal; cardiant; occlusion; reocclusion; stenosis; restenosis; antianginal; cardiant;
                                                                                                                      91
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              72 SKFVQKVNEIGIYLIDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDV
                                                                                                                                                                                   92 SKFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDV
                                                                            12 GIFLSSMXPINVSASTLYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGI
                                                                                                                                                                                                                                          VERSLSNYPPDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGA
                                                                                                                    36 GLTQNKALPENVK----YGIVLDAGSSHTSLYIYKWPAEKENDTGVVHOVEECRVKGPGI
                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       cerebroprotective; antiarteriosclerotic; vasotropic; anticoagulant;
                                            4,
Length 510;
                                        7; Indels
  Score 2297; DB 3;
Pred. No. 5.3e-225;
2; Mismatches 7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       73. .75
/note= "Asn is N-glycosylated"
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/label= Transmembrane_domain
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LGYMLNLTNMIPAEOPLSTPLSHST 456
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAY70887 standard; protein; 510 AA
  Query Match 94.4%;
Best Local Similarity 97.1%;
Matches 432; Conservative
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391

311

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The present sequence is the human CD39 polypeptide. The present sequence or its active fragment may be administered to treat or prevent stroke in a subject susceptible to intracranial haemorrhaging or an ischaemic disorder. The CD39 polypeptide inhibits ADP-mediated platelet aggregation or leukcoyte accumulation and/or ATP by increasing ADP catabolism to the subject. It is useful for treating or preventing stroke, thrombocic disorders and ischaemic disorders such as peripheral vascular disorder, pulmonary embolus, venous thrombosis, myocardial infarction, transient ischaemic attack, unstable angina, reversible ischaemic neurological deficit and sickle cell anaemia. It is also useful for treating or preventing a stroke disorder in a subject undergoing heart surgery, lung surgery, spinal surgery, brain surgery, vascular surgery, abdominal surgery, or organ transplantation surgery
   312 LFNTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCA 371
                                                                                                                                                                                                         QPWEEIKTSYAGVKEKYLSEYCPSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWT 451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human, CD39, vasotropic, cerebroprotective, haemostatic, thrombolytic, stroke, thrombotic disorder, ischaemic disorder.
                                                                                                                                          332 LFNTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYWKFLNLTSEKVSQEKVTEMMKKFCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Treating stroke in a subject susceptible to intracranial hemorrhaging an ischemic disorder, involves administering a CD39 polypeptide which inhibits ADP-mediated platelet aggregation or leukocyte accumulation.
                                                       VASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILE
                                                                                                                                                                                     372 QPWEEIKTSYAGVKEKYLSEYCPSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWT
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                                                                                                                                                                                                                                                        456
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                                                                                                                                                                                                                                                        LGYMLNLTNMI PAEQPLSTPLSHST
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97.18;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WO200111949-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          13-AUG-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human CD39.
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                      212
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                                                                                                                                                                                                                                                                                                                                         RESULT 9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SKFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDV 131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              192 LDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQ 251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VERSLSNYPPDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGA 191
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Inhibiting platelet activation and recruitment, useful for treating a mammal suffering from unstable angina, myocardial infarction, stroke, coronary artery disease or injury, comprises administering soluble CD39 polypeptides.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             12 GIFLSSMXPINVSASTLYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            7; Indels
                                                                 334. .336
//note= "Asn is N-glycosylated"
//note= "Asn is N-glycosylated"
                                                                                                                                   157. .459
'note= "Asn is N-glycosylated"
                                                     'note= "Asn is N-glycosylated"
                    "Asn is N-glycosylated"
                                                                                                                                                                   477. .499
/label= Transmembrane_domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                        Marcus AJ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim 2; Fig 1; 118pp; English.
                                                                                                                                                                                                                                                                                                                                                                                  (IMMV ) IMMUNEX CORP.
(CORR ) CORNELL RES FOUND INC.
                                                                                                                                                                                                                                                                                     99WO-US023641.
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   /note= ...
                                                                                                                                                                                                                                                                                                                                                                                                                                     Maliszewski CR, Gayle RB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            432; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2000-339518/29.
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                                                                                                                                                                                                                     WO200023094-A2
Modified-site
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                                                                                                                                                                                                                                                                                                                    16-OCT-1998
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                                                                                                                                                                                                                                                   27-APR-2000
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and

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CD39; nucleoside diphosphate; thrombolytic; anticoagulant; cardiovascular; cytostatic; antibacterial; immunosuppressive; vasotropic; cardiant; antianginal; antiarteriosclerotic; gynaecological; cerebroprotective; cancer; human; apyrase; enzyme.
                                                                                                                                                        VASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPPQQFEIQGIGNYQQCHQSILE 311
                                                                                                                                                                           331
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                                                                                                                                                                                                                                        211
                                                                                                                      LDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQ 251
                                                 131
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                               91
                71
                                                                                               QPWBEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWT
                                                                                                                                                                                            LENTSYCPYSQCAPNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCA
                                                                                     VERSLSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGA
                            SKFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDV
               GIFLSSMXPINVSASTLYGIVLDAGSSHTSLYIYKWPAEKENDIGVVHQVEECRVKGPGI
7;
Mismatches
                                                                                                                                                                                                                                                                   456
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/note = ACR2

171. .183

/note = ACR3

213. .220

/note = ACR4

447. .454
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/note = ACR1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (GEHO ) GEN HOSPITAL CORP
                                                                                                                                                                                                                                                                                                                                                                  (first entry)
 432; Conservative
                                                                                                                                                                                                                                                                                                                                                                                   Human CD39 polypeptide.
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The invention relates to a conjugate (I) comprising an enzyme and a biodegradable polymer, where (i) enzymatic activity of the enzyme is bigher relative to that of the enzyme in the absence of the biodegradable polymer, or (ii) the half life of the enzyme is longer than that of the enzyme is longer than that of the enzyme in the absence of the polymer. The enzymatic activity (i) is at least 10 (preferably at least 100) times higher in the presence of the polymer. The enzyme is a multimeric, soluble and/or extracellular enzyme, preferably an apyrase, especially a soluble form of CD39 and catalyzes hydrolysis of mucleoside diphosphate. The conjugate can be used to treat diseases relating to abnormal levels of extracellular nucleotides or abnormal aggregation of platelete, particularly cardiovascular disease, cancer, sepsis or a disease related to graft transplant. (I) is also used
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        311
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      151
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                     for treating coronary artery disease or injury following myocardial infarction, unstable angina, atherosclerosis, pre-eclampsia, embolism, platelet associated ischaemic disorders including lung, coronary and cerebral ischaemia, reocclusion following thrombosis, thrombotic disorders, and thrombosis and coagulopathies associated with exposure the aforeign or injured tissue surface, in combination with angioplasty, carotid endarterectomy, anastomosis of vascular grafts and chronic cardiovascular devices. The present sequence represents a human CD39
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            312 LFNTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VERSLSNYPPDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GLTONKALPENVK----YGLVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       12 GIFLSSMXPINVSASTLYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                         New enzyme polymer conjugate used for treating abnormal levels of extracellular nucleotides or platelet aggregation, graft transplant, cardiovascular disease, cancer and sepsis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 2297; DB 7; Length 510;
Pred. No. 5.38-225;
2; Mismatches 7; Indels
(BETH-) BETH ISRAEL DEACONESS MEDICAL CENT
                                                                                                                                                                              Claim 20; SEQ ID NO 2; 82pp; English.
                                Papisov MI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              94.4%;
ilarity 97.1%;
Conservative
                                  Robson SC,
                                                              WPI; 2003-778966/73.
N-PSDB; ADJ57261.
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 510 AA;
                                  DR,
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                                  Elmaleh
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The invention relates to novel CD39-like polypeptides (CD39-like nucleotide triphosphatase; NTPase) and nucleic acid molecules encoding such polypeptides. CD39-like polymucleotides may be used as hybridisation probes, PCR primers and in chromosome and gene mapping. Polypeptides of the invention may be used as molecular weight markers, as food supplements, in generating an antibody that specifically binds the polypeptide, as anti-thrombotic or anti-tissue graft rejection agents, or for regulating ATP neurotransmission in smooth muscle, peripheral ganglis or brain. Sequences of the invention are useful in modulating ecto-ATPase activity and for identifying compounds that modulate ecto-ATPase activity. The present sequence is human CD39 protein, a member of the CD39-like protein family. Note: This sequence is stated to be the same as
                                                                                                                                                                                                                                                                                                                                                        CD39-like protein; gene mapping; molecular weight marker;
food supplement; anti-thrombotic; anti-tissue graft rejection agent;
ATP neurotransmission; ecto-ATPase activity; nucleotide triphosphatase;
                   392 QPWEBIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New CD-39-like polypeptides and polynucleotides, useful in chromosome gene mapping, as molecular weight markers, as food supplements, or as anti-thrombotic or anti-tissue graft rejection agents.
LPNTSYCPYSQCAFNGI FLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKPCA
                                                           QPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (ACR) III"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Apyrase region (ACR)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (ACR)
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207. .228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note= "Apyrase region
169. .191
                                                                                                                         456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Location/Qualifiers
                                                                                                                                         LGYMLNLTNMIPAEQPLSTPLSHST
                                                                                                                       LGYMLNLTNMI PAEQPLSTPLSHST
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                                                                                                                                                                                                                                ADQ99453 standard; protein; 510
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       13-JUL-2001; 2001US-00908510.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              note=
                                                                                                                                                                                                                                                                                                                                                                                                       NTPase; human; enzyme.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 2004-515395/49.
                                                                                                                                                                                                                                                                                           23-SEP-2004 (first
                                                                                                                                                                                                                                                                                                                         Human CD39 protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (NUVE-) NUVELO INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Chadwick BP,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     29-JAN-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        06-JUL-2004.
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312
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Use of IL-17, IL-18, 4-1BB, CD30 or OX40 antagonists, for treating a cardiovascular disease, e.g. chronic immune myocarditis, congestive heart failure, aneurysm, angina, embolism, restenosis, ischemia or thrombocytopenic purpura.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          131
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     251
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                272 VASNEILRDPCFHPGYKKVVNVSDLXKTPCTKRPEMTLPPQQFEIQGIGNYQQCHQSILE 331
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The present invention relates to a method of treating cardiovascular disease in a subject, comprising administering an IL-17, IL-18, 4-IBB, CD30 or OX40 antagonist. The IL-17, IL-18, 4-IBB, CD30 or OX40 antagonist. The IL-17, IL-18, 4-IBB, CD30 or OX40 antagonists are useful for treating cardiovascular disorders, e.g. (chronic immune) myocarditis, congestive heart failure, aneurysms, angina, embolism, restenosis, ischaemia or thrombocytopenic purpura. T present sequence is a polypeptide used in the exemplification of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SKFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        36 GLTQNKALPENVK----YGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SKFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VERSLSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GIFLSSMXPINVSASTLYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGI
                                                                                                                                                   cardiovascular disease; IL-17; interleukin; IL-18; 4-1BB; CD30; OX40;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               94.4%; Score 2297; DB 8; 397.1%; Pred. No. 5.3e-225; ive 2; Mismatches 7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Disclosure; Page 133-134; 135pp; English.
                         ADL24295 standard; protein; 510 AA.
                                                                                                                                                                                                                                                                                         21-AUG-2003; 2003WO-US026354.
                                                                                                                                                                                                                                                                                                                         2002US-0406418P.
2003US-0494457P.
                                                                                     (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                    Burton PB, Deisher TA;
                                                                                                                                                                                                                                                                                                                                                                     (IMMV ) IMMUNEX CORP.
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N-PSDB; ADL24294.
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                                                                                                                                                                                                                           WO2004019866-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 510 AA;
                                                                                                                                                                                                Homo sapiens.
                                                                                                                                                                                                                                                                                                                        28-AUG-2002;
12-AUG-2003;
                                                                                                                                                                                                                                                            11-MAR-2004.
                                                                                     03-JUN-2004
                                                                                                                                                                    antagonist.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches 432;
                                                                                                                    Human CD39
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       invention
                                                        ADL24295;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWT 431
                                                                                                                                                                                                                                                                                       131
                                                                                                                                                                                                                                                                                                              92 SKFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVXLGATAGMRLLRMESEELADRVLDV 151
                                                                                                                                                                                                                                                                                                                                                                            VERSLSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGA 191
                                                                                                                                                                                                                                                                                                                                                                                                                       211
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                                                                                                                                                                                                                                            91
that shown as SEQ ID NO:13 in the sequence listing of the specification. However this sequence has additional residues at its ends.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  consective tissue disease; multiple sclerosis; systemic lupus erythematosus; rheumatoid arthritis; systemic lupus erythematosus; rheumatoid arthritis; autoimmune pulmonary inflammation; Guillain-Barre syndrome; autoimmune thyroiditis; insulin dependent diabetes mellitus; myasthenia gravis; graft-versus-host disease; aultoimmune inflammatory eye disease; allergic disorder; asthma; respiratory disorder; myeloid or lymphoid cell deficiency; periodontal disease; tooth repair process; inflammatory bowel disease; crohn's disease; touth repair process; inflammatory bowel disease; food supplement; anti-tissue graft rejection; ATP neurotransmission;
                                                                                                                                                                                                                                                                                                                                                                                                     SKFVOKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDV
                                                                                                                                                                                                   12 GIFLSSMXPINVSASTLYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGI
                                                                                                                                                                                                                                              36 GLTQNKALPENVK----YGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGI
                                                                                                                                                             Gaps
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                                                                                                               Length 510;
                                                                                                             Query Match 94.4%; Score 2297; DB 8; Length 5 Best Local Similarity 97.1%; Pred. No. 5.3e-225; Matches 432; Conservative 2; Mismatches 7; Indels
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124. .142
/note= "Apyrase region (ACR) II"
169. .191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LGYMLNLTNMIPAEQPLSTPLSHST 456
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                                                                        Sequence 510 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens
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The present invention relates to CD39-like polypeptide and its encoding polynucleotide. The invention is useful for preventing, treating or polynucleotide. The invention is useful for preventing, treating or ameliorating autoimmune deficiency disorders including connective tissue disease, multiple sclerosis, systemic lupus erythematosus, rheumatoid arthritis, autoimmune pulmonary inflammation, Guillain-Barre syndrome, autoimmune thyroiditis, insulin dependent diabetes mellitus, myasthenia gravis, graft-versus-host disease or autoimmune inflammatory eye disease, allergic disorders including asthma and other respiratory problems, myeloid or lymphoid cell deficiencies, periodontal diseases and other tooth repair processes, inflammatory conditions including inflammatory chowel disease and Crohn's disease, leukaemias and nervous system disorders. The invention is also useful as an anticoagulant for inhibiting platelet aggregation, food supplement, anti-tissue graft rejection agents, for regulating neurotransmission by ATP in smooth muscle, peripheral ganglia or brain and in gene therapy. The present sequence is a human CD39 protein. Note: This sequence is stated to be the same at that shown as SEQ ID 13 in sequence listing, however these
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VERSLSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGA
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note= "Apyrase region (ACR) III
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                                           207. .228
/note= "Apyrase region (ACR)
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Best Local Similarity 97.1
Matches 432; Conservative
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                                                                                                                                                                                                                                                                                                          29-JAN-1999;
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present invention provides novel CD39-like polypeptides (CD39-like
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                                                                                                                                                                                                        CD39-like protein; CD39-like nucleotide triphosphatase; NTPase; cancer;

(W chronic leukaemia; autoimmune disorder; multiple sclerosis;

runcic leukaemia; autoimmune disorder; multiple sclerosis;

runcic leukaemia; autoimmune disorder; multiple sclerosis;

runcic leukaemia; autoimmune disorder; multiple sclerosis;

(W dronic leukaemia; ducoimmune disorder; satuma;

respiratory disorder; inflammatory disorder; sethna;

respiratory disorder; inflammatory disorder; septic shock;

systemic inflammatory response syndrome; SIRS; Crohn's disease;

(W sentral nervous system disorder; peripheral nervous system disorder;

systemic lupus errythematosus;

(W stemic lupus errythematosus;

(W human immunodeficiency virus-associated myelopathy;

(W transverse myelopathy; nutritional disorder; vitamin B12 deficiency;

folic acid deficiency; Wernicke disease; tobacco-alcohol amblyopia;

(W Marchiafavy-Bignami disease; neemostatic activity; thrombolytic activity;
       QPWBEIKTSYAGVKEKYLSBYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWT 431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       New antibody or its fragment that specifically binds to CD39L3 polypeptide, useful for detecting and purifying CD39L3 polypeptide, for treating leukemia, and for detecting and preventing metastatic spread of
                                                                                                                                                                                                                                                                                                                                                                         nutritional supplement; ecto-ATPase activity; cytostatic; immunotherapy;
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                                                  456
                                                            47. .68
/note= "Apyrase (ACR)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (ACR)
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                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                                 LGYMLNLTNMI PAEQPLSTPLSHST
                                                                                                                          ADR69042 standard; protein; 510 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note= "Apyrase
202. .228
/note= "Apyrase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note= "Apyrase
169. .191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Example; Fig 8; 102pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              27-MAR-2002; 2002US-00107660.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  29-JAN-1999; 99US-00240639.
13-JUL-2001; 2001US-00905589.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Chadwick BP, Frischauf A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           .142
                                                                                                                                                                                       Human CD39 protein #3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2004-613273/59.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (NUVE-) NUVELO INC.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          cancerous cells.
                                                                                                                                                                                                                                                                                                                                                                                    human; enzyme
                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US6780977-B1
                                                                                                                                                                   04-NOV-2004
                                                                                                                                               ADR69042;
                             392
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The invention is useful in treating cancer, leukaemia and related disorders such as acute lymphocytic leukaemia, acute myelocytic leukaemia, and chronic leukaemia, autoimmune disorders such as multiple sclerosis, rheumatoid arthritis, Guillain-Barre syndrome, insulin dependent diabetes calliain, myasthenia gravis and graft-versus-host disease, allergic disorders such as asthma, respiratory disorders, inflammatory disorders cuch as septic shock, systemic inflammatory response syndrome (SIRS) and crohn as septic shock, systemic inflammatory response syndrome (SIRS) and crohn as septic shock, systemic inflammatory response syndrome (SIRS) and ischaemia, Parkinson's disease, Alzheimer's disease, Huntington's chorea, systemic lupus erythematosus, human immunodeficiency virus-associated systemic lupus erythematosus, human immunodeficiency virus-associated cytamin BlZ deficiency, folic acid deficiency, wernicke disease, tobaccolalcohol amblyopia and Marchfafava-Bignami disease. The invention also has contamined thrombolytic acid deficiency, serve as nutritional supplements and modulates ecto-ATPase activity. Serve as nutritional supplements and modulates ecto-ATPase activity. The invention acts as a cytostatic gent and is useful in immunotherapy. The present sequence is human CD3 protein. Note: This sequence is described in the specification as being
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        131
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  451
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SKFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          152 VERSLSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  212 LDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  272 VASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SKFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VERSLSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        12 GIFLSSMXPINVSASTLYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LFNTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QPWEBIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     the same as the human CD39 protein represented in SEQ ID NO: 13 of sequence listing, however the two sequences are different.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 510;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 2297; DB 8; Length 5
Pred. No. 5.3e-225;
2; Mismatches 7; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LGYMLNLTNMIPAEQPLSTPLSHST 456
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match

Best Local Similarity 97.1%;
Matches 432; Conservative 2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 510 AA;
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431

451

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autoimmune thyroiditis; diabetes mellitus; myaathenia gravis; autoimmune inflammatory eye disease; osteoporosis; osteoarthritis; Alzheimer's disease; Parkinson's disease; amyotrophic lateral sclerosis; leukeamia; nervous system disorder; neuroprotective; antiarthritic; antirheumatic; antithyroid; immunosuppressive; antidiabetic; muscular-gen; ophthalmological; osteopathic; nootropic; antiparkinsonian; cytostatic; human; CD39 protein.
                                                                                                                                                                                                                                                                                                                                                                       New isolated CD3914 polynucleotide, useful for preventing, treating, ameliorating multiple sclerosis, rheumatoid arthritis, diabetes, osteoporosis, Alzheimer's disease, amyotrophic lateral sclerosis, or
                                                                                                                                                                 169..191
/note= "Apyrase region (ACR) III
207..228
/note= "Apyrase region (ACR) IV"
                                                                                                                                   "Apyrase region (ACR) I"
                                                                                                                                                           "Apyrase region
                                                                                                              Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                Example; Fig. 8; 103pp; English.
                                                                                                                                                                                                                                                                  13-JUL-2001; 2001US-00905732
                                                                                                                                                                                                                                                                                                                                  Chadwick BP, Frischauf A;
                                                                                                                                               .142
                                                                                                                                               124. .1'/note=
                                                                                                                                    /note=
                                                                                                                                                                                                                                                                                                                                                       WPI; 2004-632929/61.
                                                                                                                                                                                                                                                                                                            (NUVE-) NUVELO INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 sequences differ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 510 AA;
                                                                                                                                                                                                                                                                                        29-JAN-1999;
                                                                                                                                                                                                                         US6787328-B1
                                                                                             Homo sapiens
                                                                                                                                                                                                                                               07-SEP-2004.
                                                                                                                                                                                                                                                                                                                                                                                                               Leukemia.
                                                                                                                            Region
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132 VERSLSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGA 191

91

Gaps

4;

Length 510; Indels GLTQNKALPENVK----YGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGI SKFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDV SKFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDV

36 72

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12 GIFLSSMXPINVSASTLYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEBCRVKGPGI

94.4%; Score 2297; DB 8; 97.1%; Pred. No. 5.3e-225; iive 2; Mismatches 7;

Conservative

Query Match Best Local Similarity

Best Local Sim. Matches 432;

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LDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQ 251
                                                                                                                      212 LDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQ 271
                                                                                                                                                                      VASNEILEDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILE 311
                                                                                                                                                                                                     LPNTSYCPYSQCAFNGIFLPPLQGDFGAFSAPYFVMKFLNLTSEKVSQEKVTEMMKKFCA
                                                                                                                                                                                                                                                                                                                                                                                          QPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    432 LGYMLNLTNMIPAEQPLSTPLSHST 456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        7, 2005, 13:13:07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       452 LGYMLNLTNMIPAEQPLSTPLSHST
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The present invention relates to a CD39-like polypeptides and the encoding polynucleotides. The CD3914 polynucleotide is useful as encoding polynucleotides. The CD3914 polynucleotide is useful as hybridisation probes, as primers for PCR, for chromosome or gene mapping, in the recombinant production of protein, and in generation of antisense DNA or RNA. The protein of the invention is used as molecular weight markers, and as food supplements and for modulating ecto-ATPases activity. The invention is useful for preventing, treating or ameliorating a medical condition, e.g. multiple sclerosis, theumatoid arthritis, autoimmune thyroiditis, diabetes mellitus, myasthenia gravis, autoimmune inflammatory evel disease, osteoporosis, osteoarthritis, autoimmune thyroiditis, diabetes mellitus, myasthenia gravis, altoimmune inflammatory evel disease, osteoporosis, osteoarthritis, cluckaemia or nervous system disorders and in gene therapy. The present sequence is that shown as SEQ ID 13 in sequence listing, however these
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Sequence 8, Appli Sequence 26, Appli Sequence 4, Appli Sequence 496, Appli Sequence 496, Appli Sequence 496, Appli Sequence 496, Appli

Sequence Sequence Sequence

Sequence '

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Sequence

Sequence Sequence

Sequence

Sequence

Length 476;

6

Query Match

264396911111

Result Š.

Sequence Sequence Sequence S

Sequence

Sequence

OM protein

Run on:

Sequence:

Searched:

Database

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Sequence 4, Application US/09835147

Patent No. US20020002277A1

GENERAL INFORMATION:

APPLICANT: Maliszewski, Charles R.

APPLICANT: Gayle III, Richard B.

APPLICANT: Price, Virginia L.

APPLICANT: Gimpel, Steven D.

TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE REFERENCE: 299-US

CURRENT APPLICATION NUMBER: US/09/835,147

CURRENT PILING DATE: 1999-U0-13

PRIOR APPLICATION NUMBER: US 60/107,466

PRIOR FILING DATE: 1998-11-06

PRIOR FILING DATE: 1998-11-06

PRIOR FILING DATE: 1998-10-13

PRIOR APPLICATION NUMBER: US 60/149,010

PRIOR APPLICATION NUMBER: PCT/US99/22955

PRIOR FILING DATE: 1999-10-13

NUMBER OF SEQ ID NOS: 31

SEQ ID NOS: 31

SEQ ID NOS: 31

SEQ ID NOS: 31

SEQ ID NOS: 31
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NAME/KEY: VARIANT
LOCATION: (39)
OTHER INFORMATION: Any amino acid, preferably Cys or Ser
US-09-835-147-4
                                                                                                           US-10-052-586-496
US-10-176-590-496
US-10-176-784-496
US-10-176-481-496
US-10-176-481-496
US-10-176-918-496
US-10-176-918-496
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ORGANISM: Artificial Sequence
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Sequence 38, Appl
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Sequence 30,
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Sequence 29,
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Sequence 6, 1
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| Cgn2_6/ptodata1/pubpaa/USO7_NEW_PUB.ppp:*
| Cgn2_6/ptodata1/pubpaa/USO6_PUBGOMB.ppp:*
| Cgn2_6/ptodata1/pubpaa/USO6_PUBGOMB.ppp:*
| Cgn2_6/ptodata1/pubpaa/USO7_NEW_PUB.ppp:*
| Cgn2_6/ptodata1/pubpaa/USO7_NEW_PUB.ppp:*
| Cgn2_6/ptodata1/pubpaa/USO8_PUBGOMB.ppp:*
| Cgn2_6/ptodata1/pubpaa/USO8_PUBGOMB.ppp:*
| Cgn2_6/ptodata1/pubpaa/USO8_PUBGOMB.ppp:*
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| Cgn2_6/ptodata1/pubpaa/USO9_PUBGOMB.ppp:*
| Cgn2_6/ptodata1/pubpaa/USO9_PUBGOMB.ppp:*
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| Cgn2_6/ptodata1/pubpaa/USO0_PUBGOMB.ppp:*
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                              GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
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US-09-744-568-1
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US-09-374-586-2
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US-09-835-147-30
US-09-835-147-29
US-09-835-147-29
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US-09-835-147-3
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Maximum Match 100%
Listing first 45 summaries
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Gapop 10.0 , Gapext 0.5
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Maximum DB seq length: 200000000
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GENERAL INFORMATION:
APPLICANT: Majiszewski, Charles R.
APPLICANT: Gayle III, Richard B.
APPLICANT: Gimpel, Steven D.
APPLICANT: Price, Virginia L.
APPLICANT: Gimpel, Steven D.
TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE OF INVENTION: UNBER: US 60/104,585
FILE REFRENCE: 2099-US
CURRENT APPLICATION NUMBER: US 60/104,685
PRIOR FILING DATE: 1998-11-06
PRIOR FILING DATE: 1998-11-06
PRIOR FILING DATE: 1998-11-06
PRIOR FILING DATE: 1999-08-13
PRIOR PLING DATE: 1999-08-13
PRIOR PLING DATE: 1999-10-13
SPRIOR PLING DATE: 1999-10-13
SPRIOR PLING DATE: 1999-10-13
SPRIOR PLING DATE: 1999-10-13
SPRIOR PLING DATE: 1999-10-13
SUFFWARE: PATENTING VET: 2.0
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                                                           1 VSHRNQQTWFEGIFLSSMXPINVSASTLYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQ
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                             Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GKIOGSDAGWTLGYMLNLTNMIPAEQPLSTPLSHST 456
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Pred. No. 6.6e-210;
2; Mismatches 9;
            Pred. No. 3.6e-215; Mismatches 0;
100.08; Fr.
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Patent No. US20020002277A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity 97.6%;
Matches 445; Conservative
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                               456; Conservative
             Best Local Similarity
Matches 456; Conserv
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1 VSHRNQQTWFEGIFLSSMXPINVSASTLYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQ 60

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APPLICANT: Ford, John
APPLICANT: Ford, John
TITLE OF INVENTION: METHODS AND MATERIALS RELATING TO NOVEL CD39-LIKE POLYPEPTIDES
FILE REFERENCE: 28110/35908
CURRENT APPLICATION NUMBER: US/10/092,063
CURRENT APPLICATION NUMBER: US/202-03-05
PRIOR PELING DATE: 2002-01-31
PRIOR APPLICATION NUMBER: PCT/US99/16180
PRIOR FILING DATE: 1999-07-16
PRIOR FILING DATE: 1999-07-09
PRIOR FILING DATE: 1999-07-09
PRIOR PILING DATE: 1999-07-09
PRIOR PLING DATE: 1999-02-44
PRIOR PILING DATE: 1999-02-44
PRIOR PILING DATE: 1999-02-44
PRIOR PILING DATE: 1999-02-24
PRIOR APPLICATION NUMBER: 09/122,449
PRIOR APPLICATION NUMBER: 09/122,449
PRIOR PILING DATE: 1998-07-24
PRIOR PILING DATE: 1998-07-24
PRIOR PILING DATE: 1998-07-16
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181 YETNNÇETFGALDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQ
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Best Local Similarity 97.1%; Pred. No. 7.3e-203;
Matches 432; Conservative 2; Mismatches 7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GKIQGSDAGWTLGYMLNLTNMIPAEQPLSTPLSHST 456
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LENGTH: 502
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Parent No. US20020138858A1

GENERAL INFORMATION:
APPLICANT: PAIRSKY, David J.

TITLE OF INVENTION: CD39/ECTO-ADPASE AS A TREATMENT FOR THROMBOTIC AND TITLE OF INVENTION: ISCHEMIC DISORDERS
FILE REFERENCE: 6575/59167

CURRENT APPLICATION NUMBER: US/09/374,586

CURRENT FILING DATE: 1999-08-13

NUMBER OF SEQ ID NOS: 2

SOFTWARE: Patentin Ver. 2.1
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                                                                                                                                                                                                                                                                                                                432 LGYMLNLTNMIPAEQPLSTPLSHST 456
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ORGANISM: HOMO-SAPIEN
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US-09-374-586-1
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Sequence 2, Application US/09835147

Patent No. USZ020002277A1

GENERAL INFORMATION:

APPLICANT: Maliszewski, Charles R.

APPLICANT: Ediple III, Richard B.

APPLICANT: Ediple III, Richard B.

APPLICANT: Ediple III, Richard B.

APPLICANT: Gimpel, Steven D.

TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE REPRENENCE: 2819-04-13

PRICA FILING DATE: 2001-04-13

PRICA FILING DATE: 1998-10-13

PRICA FILING DATE: 1998-10-13

PRICA FILING DATE: 1998-11-06

PRICA RILING DATE: 1998-11-06

PRICA RILING DATE: 1999-10-13

PRICA PLICATION NUMBER: US 60/149,010

PRICA PLICATION NUMBER: US 60/149,010

PRICA PLICATION NUMBER: PCT/US99/22955

PRICA PLING DATE: 1999-10-13

NUMBER OF SEQ ID NOS: 31

SOFTWARE: Patent IN Ver. 2.0

SEQ ID NO.

LENGTH: 510
                                                                        VERSLSNYPFDFQGARI I TGQEEGAYGWI TINYLLGKFSQKTRWFSIVPYETNNQETFGA
                                                                                               SKFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDV
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llarity 97.1%; Pred. No. 7.5e-203;
Conservative 2; Mismatches 7;
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US-09-835-147-2
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Best Local Similarity
Matches 432; Conserv
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APPLICANT: SVIGNY, Jean

APPLICANT: SVIGNY, Jean

APPLICANT: SVIGNY, Jean

APPLICANT: SVIGNY, Jean

APPLICANT: SVIGNY, Jean

APPLICANT: BACH, Stimon

TITLE OF INVENTION: THEREOF AND PROCESS OF PRODUCING THEREOF BY RECOMBINANT

TITLE OF INVENTION: TECHNOLOGY

TITLE OF INVENTION: TECHNOLOGY

TITLE OF INVENTION: TECHNOLOGY

FILE REFREENCE: 920333.90019

CURRENT FILING DATE: 2001-02-12

CURRENT FILING DATE: 1995-04-10

PRIOR FILING DATE: 1996-04-10

PRIOR FILING DATE: 1996-04-10

PRIOR FILING DATE: 1996-04-10

PRIOR FILING DATE: 1996-04-10

PRIOR FILING DATE: 1996-02-01

NUMBER OF SEQ ID NOS: 8

SOFTWARE: PALCATION VOYE: 2.1
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                     432 LGYMLNLTNMIPAEQPLSTPLSHST
                                                                                                    ; Sequence 1, Application US/09781796B
; Publication No. US20030040094A1
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM: Homo sapiens
                                                                              RESULT 6
US-09-781-796B-1
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                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQ ID NO 1
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RESULT 7 US-10-646-308-30

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; Sequence 30, Application US/10646308
; Publication No. US20040136992A1
; GENERAL INFORMATION:
; APPLICANT: BURTON, Paul B. J.
; APPLICANT: BURTON, Paul B. J.
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR TREATING CARDIOVASCULAR DISEASE
; FILE REFERENCE: 343.2
; CURRENT FILING DATE: 2003-08-21
; PRIOR APPLICATION NUMBER: -tc be assigned--
; PRIOR APPLICATION NUMBER: 60/406,418
; PRIOR APPLICATION NUMBER: 60/406,418
; RIGH APPLICATION NUMBER: 60/406,418
; NUMBER OF SEQ ID NOS: 36
; SOFTWARE: Patentin version 3.2
; SEQ ID NO 30
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 8
US-09-374-586-2
i Sequence 2, Application US/09374586
j Patent No. US200201388581
j GENERAL INFORMATION:
i APPLICANT PLINEY, David J.
i TITLE OF INVENTION: ISCHEMIC DISORDERS
j TITLE OF INVENTION: US9/ECTO-ADPASE AS A TREATMENT FOR THROMBOTIC AND
i TITLE OF INVENTION: US9/ECTO-ADPASE AS A TREATMENT FOR THROMBOTIC AND
i TITLE OF INVENTION: US9/ECTO-ADPASE AS A TREATMENT FOR THROMBOTIC AND
i CURRENT APPLICATION NUMBER: US/09/374,586
j CURRENT APPLICATION NUMBER: US/09/374,586
j CURRENT PILING DATE: 1999-08-13
j SEQ ID NOS: 2
j SEQ ID NO 2
j LENGTH: 439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SKEVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDV
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          132 VERSLSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              12 GIFLSSMXPINVSASTLYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 94.4%; Score 2297; DB 16; Best Local Similarity 97.1%; Pred. No. 7.5e-203; Matches 432; Conservative 2; Mismatches 7;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CRGANISM: Homo sapiens
US-10-646-308-30
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                                                                                                                                                                                                                18 BIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSNY 137
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          258 DPCFHPGYKKVVNVSDLYKTPCTKRFEWTLPPQQFEIQGIGNYQQCHQSILELFNTSYCP 317
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                378 SYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLNLT 437
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Sequence 30, Application US/09835147

GENERAL INFORMATION:

APPLICANT: Maliszewski, Charles R.

APPLICANT: Gayle III, Richard B.

APPLICANT: Gimpel, Steven D.

TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE REFRENCE: 2979-US

CURRENT APPLICATION NUMBER: US/09/835,147

CURRENT FILING DATE: 1998-10-16

PRIOR APPLICATION NUMBER: US 60/107,466

PRIOR FILING DATE: 1998-10-16

PRIOR FILING DATE: 1998-10-16

PRIOR FILING DATE: 1998-10-16

PRIOR FILING DATE: 1998-10-16

PRIOR PILING DATE: 1999-10-16

PRIOR PILING DATE: 1999-10-16

PRIOR PILING DATE: 1999-10-16

PRIOR PILING DATE: 1999-10-16

PRIOR PILING DATE: 1999-10-16

PRIOR PILING DATE: 1999-10-13

PRIOR PILING DATE: 1999-10-13

PRIOR PILING DATE: 1999-10-13

PRIOR PILING DATE: 1999-10-13
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                                                                                                                                                                                                                                                                                                           138 PPDFQGARIITGQEEGAYGWIIINYLLGKFSQKTRWPSIVPYETNNQETFGALDLGGAST
                                                                                                                          22 PENVK----YGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQKVN
                                                                                                                                                                                                                                                                                                                                                                         200 QVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEILR
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                                                                                               20 PINVSASTLYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQKVN
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                                                    Gaps
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    Length 454;
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                                                  Indels
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OTHER INFORMATION: Description of Artificial Sequence:
OTHER INFORMATION: construct of human CD39
US-09-835-147-08
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Pred. No. 1.2e-202;
2; Mismatches 10;
    94.3%; Score 2294; DB 9;
98.6%; Pred. No. 1.2e-202;
iive 0; Mismatches 2;
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Best Local Similarity 95.6%;
Matches 433; Conservative
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ORGANISM: Artificial Sequence
                            Best Local Similarity 98.6
Matches 431; Conservative
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US-09-835-147-30
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       Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   YSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEEIKT 379
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SYÄGVKEKYLSEYCFSGTYILSLILQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLANT 422
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APPLICANT: Maliszewski, Charles R.
APPLICANT: Maliszewski, Charles R.
APPLICANT: Maliszewski, Charles R.
APPLICANT: Price, Virginia L.
APPLICANT: Gimpel, Stewen D.
TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE REFERENCE: 2879-US
CURRENT APPLICANTON NUMBER: US/09/835,147
CURRENT FILING DATE: 1998-10-16
PRIOR FILING DATE: 1998-10-16
PRIOR FILING DATE: 1998-11-06
PRIOR PLICATION NUMBER: US 60/107,466
PRIOR PLICATION NUMBER: US 60/107,466
PRIOR PLICATION NUMBER: US 60/149,010
PRIOR FILING DATE: 1999-08-13
PRIOR FILING DATE: 1999-10-13
NUMBER OF SEQ ID DATE: 1999-10-13
                                                                                                                                                                                                                              7 PENVK----YGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQKVN
                                                                                                                                                                                                                                                                            EIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSNY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEILR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                YSQCAFNGI FLPPLQGDFGAFSAFYFWKFLNLTSEKVSQEKVTEMKKKFCAQPWEEIKT
                                                                                                                                                                                   20 PINVSASTLYGIVLDAGSSHTSLYIYKMPAEKENDTGVVHQVEECRVKGPGISKFVQKVN
                                                                                                                                                                                                                                                                                                                                                                     PFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGAST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEILR
                                                                                                                                             Gaps
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                                                                                               Length 439;
                                                                                                                                        Indels
                                                                                           Query Match
94.3%; Score 2294; DB 9;
Best Local Similarity 98.6%; Pred. No. 1.1e-202;
Matches 431; Conservative 0; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 6, Application US/09835147
Patent No. US20020002277A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      423 NMIPAEQPLSTPLSHST 439
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TYPE: PRT CAGANISM: Homo sapiens US-09-374-586-2
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US-09-835-147-6
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tch 94.3%;
al Similarity 98.6%;
431; Conservative C
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SOFTWARE: PatentIn Ver. 2.0
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LENGTH: 473
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Best Local S
Matches 431
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                                                                                            CRVKGPGISKFVQKVNEIGIYLIDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEE 123
                                                                                                                       1 CRVKGPGISKFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEE 130
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| Sequence 27. Application US/09835147 |
| Sequence 27. Application US/0020002277A1 |
| GENERAL INFORMATION: US20020002277A1 |
| GENERAL INFORMATION: MALISERSWEK, Charles R. APPLICANT: Gampel. Steven D. TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE REFERENCE: 2879-US |
| CURRENT APPLICANTION: Inhibitors of Platelet Activation and Recruitment FILE REFERENCE: 2879-US |
| CURRENT APPLICATION NUMBER: US 60/104,585 |
| PRIOR FILING DATE: 1998-10-16 |
| PRIOR FILING DATE: 1998-11-06 |
| PRIOR FILING DATE: 1999-11-06 |
| PRIOR FILING DATE: 1999-11-06 |
| PRIOR FILING DATE: 1999-10-13 |
| NUMBER OF SEQ ID NOS: 31 |
| SEQ ID NO 27 |
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WPEGIFLSSMXPINVSASTL----YGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEE
                           14 WVPG---STGAPISTQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDIGVVHQVEE
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94.3%; Score 2294; DB 9; Length 464;
Best Local Similarity 98.6%; Pred. No. 1.2e-202;
Matches 431; Conservative 0; Mismatches 2; Indels
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Sequence 29, Application US/09835147
Sequence 29, Application US/09835147
Sequence 29, Application US/09835147
Sequence 29, Application
Sequence 20, Application
Sequence 20, Application
APPLICANT: Maliszewski, Charles R.
APPLICANT: Gayle III, Richard B.
APPLICANT: Gimpel. Steven D.
TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment
FILE REFERENCE: 2879-US
CURRENT APPLICATION NUMBER: US 60/104,585
PRIOR FILING DATE: 1998-11-0-16
PRIOR FILING DATE: 1998-11-0-6
PRIOR FILING DATE: 1998-11-0-6
PRIOR FILING DATE: 1998-11-0-6
PRIOR FILING DATE: 1999-08-13
PRIOR APPLICATION NUMBER: US 60/149,010
PRIOR APPLICATION NUMBER: PCT/US99/22955
PRIOR PRIOR OF THE 1999-08-13
PRIOR PRIOR PRILING DATE: 1999-10-13
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EIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSNY
                       Gaps
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US-09-835-147-29
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Pred. No. 1.3e-202;
0; Mismatches 2;
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278 DPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILLELFNTSYCP 337
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APPLICANT: Gayle III, Richard B.
APPLICANT: Gayle III, Richard B.
APPLICANT: Gayle III, Richard B.
APPLICANT: Gayle III, Richard B.
APPLICANT: Price, Virginia L.
ITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE REFERENCE: 2879-US
CURRENT APPLICATION NUMBER: US/09/835,147
CURRENT FILING DATE: 2001-04-13
PRIOR PLILING DATE: 1998-10-16
PRIOR FILING DATE: 1998-10-16
PRIOR FILING DATE: 1998-11-06
PRIOR FILING DATE: 1999-08-13
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                                    218 QVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALMQKLAKDIQVASNEILR
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Best Local Similarity 98.6%; Pred. No. 1.3e-202;
Matches 431; Conservative 0; Mismatches 2;
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Patent No. US20020002277A1
GENERAL INFORMATION:
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APPLICANT: Gayle III, Richard B.
APPLICANT: Gayle III, Richard B.
APPLICANT: Gayle III, Richard B.
APPLICANT: Gayle III, Richard B.
APPLICANT: Price, Virginia L.
APPLICANT: Gimpel, Steven D.
ITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE REFERENCE: 2879-US
CURRENT APPLICATION NUMBER: US 60/104,585
PRIOR FILING DATE: 1998-10-16
PRIOR FILING DATE: 1998-11-06
PRIOR PILING DATE: 1998-11-06
PRIOR PILING DATE: 1999-08-13
PRIOR FILING DATE: 1999-08-13
PRIOR FILING DATE: 1999-10-13
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PPDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGAST
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Best Local Similarity 98.6%; Pred. No. 1.3e-202;
Matches 431; Conservative 0; Mismatches 2;
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Patent No. US20020002277A1
GENERAL INFORMATION:
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                                                                    320 YSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEEIKT 379
                                                                                        380 SYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLNLT 439
                                                                                                                                                         341
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Sequence 26. Application US/09835147

Patent No. US2002000277A1

GENERAL INFORMATION:

APPLICANT: Maliazewski, Charles R.

APPLICANT: Gimpel.

APPLICANT: Gimpel.

APPLICANT: Gimpel.

TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment

TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment

FILE REFERENCE: 2879-US

CURRENT APPLICATION NUMBER: US/09/835,147

CURRENT FILING DATE: 12001-04-13

PRIOR FILING DATE: 1998-11-06

PRIOR FILING DATE: 1999-11-06

PRIOR FILING DATE: 1999-11-06

PRIOR FILING DATE: 1999-10-13

PRIOR FILING DATE: 1999-10-13

NUMBER OF SEQ ID NOS: 31

SOFTWARE: PatentIN Ver: 2.0

SEQ ID NO 26

LENGTH: 487

LENGTH: 487
Gaps
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94.3%; Score 2294; DB 9; Length 487;
Best Local Similarity 98.6%; Pred. No. 1.3e-202;
Matches 431; Conservative 0; Mismatches 2; Indels
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Patent No. 647621

GENERAL INFORMATION:

APPLICANT: Ford, John

APPLICANT: Ford, John

APPLICANT: Ford, John

APPLICANT: Ford, John

APPLICANT: Ford, John

APPLICANT: Mulero, Julio

APPLICANT: Weing, George

TITLE OF INVENTION: Methods and Materials Relating to CD39-Like

TITLE OF INVENTION: Methods and Materials Relating to CD39-Like

TITLE OF INVENTION: Methods and Materials Relating to CD39-Like

TITLE OF INVENTION: PO1ypeptides

FILE REFERENCE: 28110/36457

CURRENT APPLICATION NUMBER: 09/481,238

PRIOR APPLICATION NUMBER: 09/370,265

PRIOR APPLICATION NUMBER: 09/370,265

PRIOR APPLICATION NUMBER: 09/370,265

PRIOR APPLICATION NUMBER: 09/21444

PRIOR APPLICATION NUMBER: 09/21444

PRIOR APPLICATION NUMBER: 09/21444

PRIOR APPLICATION NUMBER: 09/21444

PRIOR APPLICATION NUMBER: 09/118,205

PRIOR APPLICATION NUMBER: 09/118,205

PRIOR PILING DATE: 1999-07-16

NUMBER OF SEQ ID NOS: 56

SEQ ID NO 55

LENGTH: 502

TYPE: PRI: TYPE: PRI: TYPE: PRI: TYPE: PRI: TYPE: PRI: TYPE: PRI: TYPE: PRI: TYPE: PRI: TYPE: PRI: TYPE: PRI: TYPE: PRI: TYPE: PRI: TYPE: PRI: TYPE: PRI: TYPE: PRI: TYPE: PRI: TYPE: PRI: TYPE: PRI: TYPE: PRI: TYPE: PRI: TYPE: PRI: TYPE: PRI: TYPE: PRI: TYPE: PRI: TYPE: PRI: TYPE: PRI: TYPE: PRI: TYPE: PRI: TYPE: PRI: TYPE: PRI: TYPE: PRI: TYPE: PRI: TYPE: PRI: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: TYPE: 
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                  US-09-905-732B-14
US-09-905-743B-14
US-09-350-836B-7
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US-09-370-625A-7
US-09-57-8002-7
US-09-608-285A-3
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US-09-250-838-3
US-09-350-838-3
US-09-350-838-3
US-09-350-836B-3
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US-09-357-800C-3
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Best Local Similarity 97.1<sup>1</sup>
Matches 432; Conservative
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(cgn2_6/ptodata/1/iaa/5B_COMB.pep:*
(cgn2_6/ptodata/1/iaa/6A_COMB.pep:*
(cgn2_6/ptodata/1/iaa/6B_COMB.pep:*
(cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*
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                GenCore version 5.1.6
(c) 1993 - 2005 Compugen Ltd
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US-09-908-510A-4
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US-09-905-744B-4
US-09-905-744B-4
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US-09-905-742B-4
US-09-905-773B-4
US-09-949-016-6049
US-09-949-016-11328
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Maximum Match 100%
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RESULT 3

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US-08-930-921-1

Sequence 1, Application US/08930921B

Patent No. 6287837

GENERAL INFORMATION:

APPLICANT: BEAUDOIN, Adrien R.

APPLICANT: BEAUDOIN, Adrien R.

TITLE OF INVENTION: THEREOF AND PROCESS OF PRODUCING THEREOF BY RECOMBINANT

TITLE OF INVENTION: THERHOLOGY

TITLE OF INVENTION: THERHOLOGY

TITLE OF INVENTION: THERHOLOGY

TITLE OF INVENTION: ATP-DIPHOSPHOHYDROLASES-BEAUDOIN

FILE REFERENCE: ATP-DIPHOSPHOHYDROLASES-BEAUDOIN

CURRENT FILING DATE: 1998-01-02

BARLIER APPLICATION NUMBER: PCT/CA96/00223

BARLIER APPLICATION NUMBER: PCT/CA96/00223

BARLIER APPLICATION NUMBER: PCT/CA96/00223

BARLIER APPLICATION NUMBER: PCT/CA96/00223

SOFTWARE: Patentin Ver. 2.0

SOFTWARE: Patentin Ver. 2.0
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               392 QPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWT 451
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: PRT
ORGANISM: Unknown
FRATURE:
OTHER INFORMATION: Description of Unknown Organism: unknown
US-08-930-921-1
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APPLICANT: FOLG, John
APPLICANT: FOLG, John
APPLICANT: FALGOS, Julio
APPLICANT: MALECO, Julio
TITLE OF INVENTION: METHODS AND MATERIALS RELATING TO NOVEL CD39-LIKE POLYPEPTIDES
FILE REPERENCE: 28110/35908
CURRENT APPLICATION NUMBER: US/09/370,625A
CURRENT FILING DATE: 1999-00-09
PRIOR FILING DATE: 1999-07-16
PRIOR FILING DATE: 1999-07-16
PRIOR FILING DATE: 1999-07-09
PRIOR FILING DATE: 1999-07-09
PRIOR FILING DATE: 1999-07-09
PRIOR FILING DATE: 1999-07-09
PRIOR FILING DATE: 1999-07-09
PRIOR FILING DATE: 1999-03-19
NUMBER OF SEQ ID NOS: 39
SOFTWARE: Astendin Ver. 2.0
ENG JD NO 38
LENGTH: 502
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Sequence 38, Application US/09370625A;
Patent No. 6600032;
GENERAL INFORMATION:
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US-09-370-625A-38
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                                                   APPLICANT: BEAUDOIN, Adrien R.
APPLICANT: SEVIGNY, Jean
APPLICANT: BEAUDOIN, Jean
APPLICANT: BEAUDOIN, Jean
APPLICANT: BEAUDOIN, Pritz H.
APPLICANT: BACHOON, Simon
TITLE OF INVENTION: ATP-DIPHOSPHOHYDROLASES, PROCESS OF PURIFICATION
TITLE OF INVENTION: ATP-DIPHOSPHOHYDROLASES, PROCESS OF PRODUCING THEREOF BY RECOMBINANT
TITLE OF INVENTION: TECHNOLOGY
FILE REFERENCE: 92033.90019
CURRENT APPLICATION NUMBER: US/09/781,796C
CURRENT APPLICATION NUMBER: 08/09/19, O4
PRIOR PLING DATE: 1996-04-10
PRIOR PLING DATE: 1996-04-10
PRIOR FILING DATE: 1996-04-10
PRIOR FILING DATE: 1996-02-01
PRIOR FILING DATE: 1996-02-01
NUMBER OF EQ ID NOS: 8
SOFTWARE: Paténtin Ver. 2.1
SEMENTED FILENCED IN NOS: 8
SOFTWARE: PATÉNTED IN NOS: 8
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Sequence 1, Application US/09781796C
Patent No. 6800284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; ORGANISM: Homo sapiens
US-09-781-796C-1
                                          GENERAL INFORMATION:
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Sequence 4, Application US/09240639 Patent No. 6350447 GENERAL INFORMATION:

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US-09-908-1044

Sequence 4, Application US/09908510A

Patent No. 6759214

SERNERAL INFORMATION:

APPLICANT: Chadwick, Brian Paul

APPLICANT: Chadwick, Brian Paul

APPLICANT: Chadwick, Brian Paul

APPLICANT: Chadwick, Brian Paul

TITLE OF INVENTION: ACIDS

TITLE OF INVENTION: ACIDS

TITLE OF INVENTION: ACIDS

TITLE OF INVENTION: ACIDS

CURRENT APPLICATION NUMBER: US/09/908,510A

FILE REFERENCE: 28110/36120B

CURRENT APPLICATION NUMBER: 09/240,639

PRIOR FILING DATE: 1999-01-29

MUMBER OF SEQ ID NOS: 32

SOFTWARE: Patentin version 3.1

SEQ ID NO 4:

LENGTH: 529

TYPE: PRT

ORGANISM: Homo Sapiens

US-09-908-510A-4
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APPLICANT: Chadwick, Brian Paul
APPLICANT: Friechauf, Anna-Maria
TITLE OF INVENTION: METHODS AND COMPOSITIONS RELATING TO CD39-LIKE
TITLE OF INVENTION: POLYPEPTIDES AND NUCLEIC ACIDS
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                                                                                                       FILE REFERENCE: 9598-066
CURRENT PELLING NUMBER: US/09/240,639
CURRENT FILING DATE: 1998-01-29
NUMBER OF SEQ ID NOS: 29
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 4
LENGTH: 529
                                                                                                                                                                                                                                                                                                         TYPE: PRT
ORGANISM: Homo sapiens
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385 KEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLNLTNMIPA
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Sequence 10. 6780977

GENERAL INFORMATION:
SEPLICANT: Chadwick, Brian Paul
APPLICANT: Chadwick, Brian Paul
APPLICANT: Chadwick, Brian Paul
APPLICANT: Friechauf, Anna-Maria
TITLE OF INVENTION: POLYPEPTIDES AND COMPOSITIONS RELATING TO CD39-LIKE
TITLE OF INVENTION: POLYPEPTIDES AND NUCLEIC ACIDS
TITLE OF INVENTION: POLYPEPTIDES AND NUCLEIC ACIDS
TITLE OF INVENTION POLYPER: US/10/107,660
CURRENT FILING DATE: 1998-01-27
CURRENT FILING DATE: 1998-01-29
NUMBER OF SEQ ID NOS: 29
SOFTWARE: Patentin Ver. 2.0
                                         209 TIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVA-SNEILRDPCFHPGY
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36.7%; Score 892.5; DB 4;
Best Local Similarity 41.7%; Pred. No. 9.5e-87;
Matches 177; Conservative 76; Mismatches 164;
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LENGTH: 529
TYPE: PRT
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US-10-107-660-4
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Sequence 4, Application US/09905744B

Sequence 4, Application US/09905744B

Sequence 4, Application US/090574B

GENERAL INFORMATION:
APPLICANT: Chadwick, Brian Paul
APPLICANT: Frischauf, Anna Maria
TITLE OF INVENTION: MCIDS AND COMPOSITIONS RELATING TO CD39-LIKE POLYPEPTIDES AND TITLE OF INVENTION: ACIDS
FILE REFERENCE: 28110/36120A

FURE REFERENCE: 28110/36120A

CURRENT APPLICATION NUMBER: US/09/905,744B

CURRENT FILING DATE: 1999-01-29

NUMBER OF SEQ ID NOS: 32

SOFTWARE: Patentin version 3.1
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                         ch 36.7%; Score 892.5; DB 4; Length il Similarity 41.7%; Pred. No. 9.5e-87; 177; Conservative 76; Mismatches 164; Indels
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llarity 41.7%; Pred. No. 9.5e-87;
Conservative 76; Mismatches 164;
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US-09-905-744B-4
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APPLICANT: Chadwick, Brian Paul
APPLICANT: Chadwick, Brian Paul
APPLICANT: Fistochaic, Anna Maria
TITLE OF Fistochaic, Anna Maria
TITLE OF INVENTION: METHODS AND COMPOSITIONS RELATING TO CD39-LIKE POLYPEPTIDES AND
FILE REPERENCE: 28110/36120B
CURRENT APPLICATION NUMBER: US/09/905,732B
CURRENT APPLICATION NUMBER: 090/240,639
PRIOR FILING DATE: 1999-01-29
NUMBER OF SEQ ID NOS: 32
SOFTWARE: Patentin version 3.1
SEQ ID NO 4
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Sequence 4, Application US/09923304

Sequence 4, Application US/09923304

Sequence 4, Application US/09923304

Sequence 4, Application US/09923304

GENERAL INFORMATION:

APPLICANT: ATAZ, RUTH

APPLICANT: JIANG, FENG

TITLE OF INVENTION: DETECTION AND DIAGNOSIS OF SMOKING RELATED CANCERS

FILE REFERENCE: USC:658US

CURRENT APPLICATION NUMBER: US/09/923,304

CURRENT FILING DATE: 2001-08-06

NUMBER OF SEQ ID NOS: 11

SOFTWARE: Patentin Ver. 2.1

SEQ ID NO 4
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ORGANISM: Homo sapiens
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Best Local Similarity
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GENERAL INFORMATION:
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APPLICANT: Chadwick, Brian Paul
APPLICANT: Chadwick, Brian Paul
APPLICANT: Prischauf, Anna Maria
ATTLE OF INVENTION: METHODS AND COMPOSITIONS RELATING TO CD39-LIKE POLYPEPTIDES AND
TITLE OF INVENTION: ACIDS
FILE REFERENCE: 28110/36120H
CURRENT FAPLICATION NUMBER: 102/40,639
PRIOR APPLICATION NUMBER: 09/240,639
PRIOR PILING DATE: 1999-01-29
NUMBER OF SEQ ID NOS: 32
SOFTWARE: Patentin version 3.1
SEQ ID NO 4
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                                       414 DEVYARSYCFSANYIYHLFVNGYKFTEETWPOIHFEKEVGNSSIAWSLGYMLSLTNOIFA 473
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; Patent No. 6787328
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Patent No. 6783959
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ORGANISM: Homo Sapiens
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Sequence 4, Application US/09905743B

Sequence 4, Application US/09905743B

Patent No. 6628423

GENERAL INFORMATION:

APPLICANT: Chadwick, Brian Paul

APPLICANT: Frischauf, Anna Maria

TITLE OF INVENTION: METHODS AND COMPOSITIONS RELATING TO CD39-LIKE POLYPEPTIDES AND PAUL REPERENCE: 28110/36120C

TITLE OF INVENTION: UNMBER: US/09/905,743B

CURRENT APPLICATION NUMBER: US/09/905,743B

CURRENT FILING DATE: 1999-01-29

NUMBER OF SEQ ID NOS: 32

SOFTWARE: Patentin version 3.1
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41.7%; Pred. No. 9.5e-87;
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Best Local Similarity 41.7%
Matches 177; Conservative
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ORGANISM: Homo Sapiens
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| Sequence 6049, Application US/09949016
| Patent No. 6812339
| GENERAL INFORMATION:
| APPLICANT: VEXTER. VEXTER. VEXTER. VEXTER. TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF;
| TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF;
| FILE REFREENCE: CLOUG1307
| CURRENT FILING DATE: 2000-04-14
| PRIOR PILING DATE: 2000-10-20
| PRIOR FILING DATE: 2000-10-03
| PRIOR FILING DATE: 2000-10-03
| PRIOR FILING DATE: 2000-09-08
| NUMBER OF SEQ ID NOS: 207012
| SEQ ID NO 6049
| LENGTH: ESSUENCE CLOUGH VINDER: VERSION 4.0
| LENGTH: SESUENCE CLOUGH VINDER: VERSION AND VERSION A.0
| LENGTH: SESUENCE CLOUGH VINDER: VERSION A.0
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tive 76; Mismatches 164;
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Best Local Similarity 41.7%
Matches 177; Conservative
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US-09-949-016-6049
      Query Match
Best Local Simil
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Job time : 20.4328 secs
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TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED
TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF
FILE REPERENCE: CLOO1307
CURRENT APPLICATION NUMBER: US/09/949,016
CURRENT PILING DATE: 2000-04-14
PRIOR APPLICATION NUMBER: 60/241,755
PRIOR APPLICATION NUMBER: 60/237,768
PRIOR PILING DATE: 2000-10-03
PRIOR PILING DATE: 2000-10-03
PRIOR PILING DATE: 2000-0-09-08
NUMBER OF SEQ. ID NOS: 207012
SOSTWARE PRICSEQ for Windows Version 4.0
                                                                414 DEVYARSYCFSANYIYHLFVNGYKFTEETWPQIHFEKEVGNSSIAWSLGYMLSLTNQIPA 473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           84 YG1VLDAGSSRTTVYVYQWPAEKENNTGVVSQTFKCSVKGSGISSYGNNPQDVPRAFEEC 143
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KEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLNLTNMIPA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         29 YGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQKVNEIGIYLTDC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           36.7%; Score 892.5; DB 4; Length 556; 41.7%; Pred. No. 1e-86; ive 76; Mismatches 164; Indels 7
                                                                                                                                                                                                                Sequence 11328, Application US/09949016
Patent No. 6814339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity 41.777; Conservative
                                                                                                         EOPL 448
                                                                                                                                        ESPL 477
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; TYPE: PRT ; ORGANISM: Human US-09-949-016-11328
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US-09-949-016-11328
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Best Local Simi
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LENGTH: 556
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Sequence 11559, Application US/09949016

Sequence 11559, Application US/09949016

Barent No. 681239

GENERAL INFORMATION:
APPLICANT: VENTER, J. Craig et al.
TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED
TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF
TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF
TITLE OF INVENTION: WUMBER: US/09/949,016
CURRENT APPLICATION NUMBER: US/0241,755
PRIOR APPLICATION NUMBER: 60/231,768
PRIOR PILING DATE: 2000-10-20
PRIOR PILING DATE: 2000-10-03
PRIOR FILING DATE: 2000-10-03
PRIOR FILING DATE: 2000-10-06

NUMBER OF SEQ ID NOS: 207012
SOFTMARE: PSECSED IN NOS: 207012
SOFTMARE: PSECSED OF Windows Version 4.0
SEQ ID NO 11559
LENTING.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   264 HPGYKKVVNVSDLYKTPCTKRFEMTLPFQQF-----EIQGIGNYQQCHQSILELFNTSY 317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      274 PRGFSTQVLLGDVYQSPCT----MAQRPQNFNSSARVSLSGSSDPHLCRDLVSGLFSFSS 329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        318 CPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFL--NLTSEKVSQEKVTEMMKKFCAQPWE 375
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35.1%; Score 854; DB 4; Length 47
Best Local Similarity 41.7%; Pred. No. 1.1e-82;
Matches 180; Conservative 66; Mismatches 132; Indels
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version 5.1.6 - 2005 Compugen Ltd.	el	; Search time 13.5783 Seconds (without alignments) 3117.881 Million cell updates/sec	_464 NLTNMIPAEQPLSTPLSHST 440		residues	parameters: 283416		\$			results predicted by chance to have a to the score of the result being printed, of the total score distribution.	RIES	Description	lymphoid cell acti	inypothetical proce hypothetical prote	probable nucleotid	hypothetical prote	hypothetical prote	probable guanosine nucleoside triphos	apyrase (EC 3.6.1. hypothetical prote	nypotnetical prote guanosine-diphosph	nucleoside-triphos C4-dicarboxylase-b	hypothetical prote	autolysin, Nacety	hypothetical prote	iypothetical prote hymothetical prote	- 81	Droce
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93 4.0 466 2 JC6525 92.5 3.9 404 2 T21251 92.5 3.9 556 2 A90715 92.5 3.9 556 2 H64799 ALIGNMENTS	2 JC6525 2 T121251 2 A90715 2 H64799 ALIGNMENTS Gen - human	~	~	110	lactici	n 481/lact
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ALIGNMENTS	d - neg.	0	0	199	probabl	e dnaK-typ
	RESULT 1 156242 lymphoid cell activation antigen - human 1.Sneries Homo sanians (man)	ALIGNMENTS	ALI	ALIGNMENTS		
	Species: Homo sapiens (man)	antigen - human	igen - huma	uman		
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156242 lymphoid cell activation antigen - human C;Species: Homo sapiens (man)	<pre>''Date: 02-Jul-1996 #sequence_revision 02-Jul-1996 #text_change</pre>	mence revision 02-Jul-1996 #text	2010102	7000	CC (40 44 44 44 44 44 44 44 44 44 44 44 44 4	4000 - LuT.
155242 lymphoid cell activation antigen - human C.Species: Homo sapiens (man) C.Bate: 02-Jul-1996 #sequence_revision 02-Jul-1996 #text_change 09-Jul-2004	C. Accession: T56242		TOTELATE	11 02-001-1396 +	#rext_change us	FOOT THO

C; Accession: 156242
R; Maliszewski, C.R.; Deleapesse, G.J.; Schoenborn, M.A.; Armitage, R.J.; Fanslow, W.C.;
J. Immunol. 153, 3574-3583, 1994
A; Title: The CD39 lymphoid cell activation antigen. Molecular cloning and structural cha A; Reference number: 156242, MUID: 95015846; PMID: 7930580
A; Accession: 156242
A; Accession: 156242
A; Molecule type: mRNA
A; Molecule type: mRNA
A; Residuae: 1-510 <RBS.
A; Residuae: 1-510 <RBS.
A; Cross-references: UNIPROT: P49961; GB: S73813; NID: 9765255; PIDN: AAB32152.1; PID: 9765256
C; Superfamily: nucleoside triphosphatase chromatin-associated
C; Superfamily: nucleoside triphosphatase chromatin-associated

Query Match 99.8%; Score 2348; DB 2; Length 510;
Best Local Similarity 100.0%; Pred. No. 4.2e-183;
Matches 439; Conservative 0; Mismatches 0; Indels 0; Gaps 0

Matches	439;	Conservative		Misma	Mismatches		Indels	0	Gap	80,	ö
δ	2	TONKALPENVKYGI VLDAGSSHTSLY I YKWPAEKENDTGVVHQVEECRVKGPGI	GSSH	SLYIY	KWPAEKEND	TGV-	OVEECRV	'KGPGI	SXF	SKFVQK	61
Ор	38 TC	TONKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQK	GSSH	SLYIY	KWPAEKEND	-19- -19-	10VEECRV	KGPGI	SKF		76
٥'n	62 VZ	VNEIGIYLTDCMERAREVI PRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLS	TPRSC	CHOETP	VYLGATAGM	RLLR	RESEELAD	RVLDV	- EB		121
qq	98	VNBIGIYLTDCMBRAREVIPRSQHQETPVYLGATAGMRLLRMBSEBLADRVLDVVERSLS	IPRSC	HOETP	VYLGATAGM	RLLR	TESEELAD	RVLDV	-8 -8		157
ò	122 NY	NYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSI	SAYGW	TINXL	LGKFSOKTR	WFSI	VPYETNNOETFGALDLGGA	ETFGA	12		181
qq	158 NY	NYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGA	3AYGW]	TINYL	LGKFSQKTR	WFSI	PYETING	ETFGA	=======================================		217
ò	182 ST	STQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNE	MALOFF	RLYGKD	YNVYTHSFL	CYGK	OOALWOKI	AKDIO	VAS	н-	241
Dp	218 ST	STQVTFVPQNQTIESFDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNBI	ALOFF	SLYGKD	YNVYTHSFL	CYGK	O ALWOKE	AKD10	VAS		277
λδ	242 LF	LRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPPQQFEIQGIGNYQQCHQSILELFNTSY	LYKT	CTKRF	EMTLPFOOF	BIOG	GNYQQCH	OSILE	NE.		301
qq	278 LF	LRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIGGIGNYQQCHQSILELFNTSY	LYKT	CTKRF	EMTLPFQQF	BIOG	GNYQQCH	OSILE	-12		337
δ	302 CE	CPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLISEKVSQEKVTEMMKKFCAQPWEEI	SDEGAE	SAFYF	VMKFLNLTS	EKVS	ZEKVTEMP	IKKFCA	QP.		361
qq	338 CE	CPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEEI	BPFGAE	SAFYF	VMKFLNLTS	EKVS(ZEKVTEM	IKKFCA	- 0 - 0		397
δλ	362 KT	KTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLN	GTYII	OTTTS	GYHFTADSW	BHIH	FIGKIOGS	DAGWT	T.GY		421
qq	398 KJ	KTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLN	GTYII	SLLLO	GYHFTADSW.	EHIH!	FIGKIQGS	DAGWT	-25		457
Š	422 L7	LTWMIPAEOPLSTPLSHST	44	0							
Ωp	458 L7	LTNMIPAEQPLSTPLSHST	T 476	10							

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Query Match 20.0%;
Best Local Similarity 31.2%;
Matches 123; Conservative 6
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A,Cross-references: SGD:S0000807
A,Map position: 5R
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Dubez'or hypothetical protein F7A19.34 [imported] - Arabidopsis thaliana Cispeches: Arabidopsis thaliana (mouse-ear cress)
C;Speches: Arabidopsis thaliana (mouse-ear cress)
C;Speches: Arabidopsis thaliana (mouse-ear cress)
C;Date: 00-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004
C;Accession: 0966276
R;Theologis, A; Ecker, J.R.; Palm, C.J.; Federspiel, N.A.; Kaul, S.; White, O.; Alonso, Chin, C.W.; Chung, M.K.; Conn, L.; Conway, A.B.; Conway, A.R.; Creasy, T.H.; Dewar, K.; ansen, N.F.; Hudies, B.; Huizar, L.
Nature 408, 816-820, 2000
A;Authors: Hunter, J.L.; Jenkins, J.; Johnson-Hopson, C.; Khan, S.; Khaykin, E.; Kim, C.A.; Li, J.H.; Li, Y.; Lin, X.; Liu, S.A.; Luros, J.S.; Maiti, R.; Marziali, Rizzo, M.; Rooney, T.; Rowley, D.; Sakano, H.
Rizzo, M.; Rooney, T.; Rowley, D.; Sakano, H.
A;Authors: Salzberg, S.L.; Schwartz, J.R.; Shinn, P.; Southwick, A.M.; Sun, H.; Tallon, A;Title: Sequence and analysis of Chromosome 1 of the plant Arabidopsis.
A;Accession: D86276
A;Accession: D86276
A;Accession: D86276
A;Residues: 1-483 <STO>
A;Residues: 1-483 <STO>
A;Residues: 1-483 <STO>
A;Residues: 1-483 <STO>
A;Map position: 1
C;Superfamily: nucleoside triphosphatase chromatin-associated
C;Superfamily: nucleoside triphosphatase chromatin-associated
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CAQPWEBIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAG 413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   229
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C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 02-Mar_2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VTFVPQNQTIESPDNALQFRLYGK-DYNVYTHSFLCYGKDQALWOKLAKDIQVASNE---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       11 VKYGIVLDAGSSHTSLYIYKWPAEKEN---DTGVVHQVEECRVK-GPGISKFVQKVNEIG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 68 LRYSVLIDAGSSGTRVHVFGYWPESGKPVFDFGEKHY---ANLKLTPGLSSYADNPEGAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       67 IYLIDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSL--SNYP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LF - - NTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 62;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 483;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match

21.5%; Score 505; DB 2; Length 48:
Best Local Similarity 31.3%; Pred. No. 4e-33;
Matches 135; Conservative 70; Mismatches 164; Indels
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A;Cross-references: UNIPROT:P40009; EMBL:U18778; NID:g603592; PID:g603597; GSPDB:GN00005.
ansen, N.F.; Hughes, B.; Huizar, L.
Naturborss 816-820, 2000
Ajauthorss Huneer, J.L.; Jenkins, J.; Johnson-Hopson, C.; Khan, S.; Khaykin, E.; Kim, C. A; Authorss Huneer, J.L.; Jenkins, J.; Liu, Z.X.; Liu, Z.A.; Luros, J.S.; Maiti, R.; Marziali, Rizzo, M.; Rooney, T.; Rowley, D.; Sakaho, T.; Rowley, D.; Sakaho, T.; Rowley, D.; Sakaho, T.; Rowley, D.; Sakaho, T.; Rowley, D.; Sakaho, T.; Rowley, D.; Sakaho, T.; Rowley, D.; Sakaho, T.; Rowley, D.; Sakaho, T.; Rowley, D.; Sakaho, T.; Rowley, D.; Sakaho, T.; Rowley, D.; Sakaho, T.; Rowley, D.; Sakaho, T.; Rowley, D.; Sakaho, T.; Rowley, D.; Sakaho, T.; Rowley, D.; Railon, A; Tallon, A; Tallon, A; Reference and analysis of chromosome 1 of the plant Arabidopsis.
A; Accession: E86276
A; Status: Preliminary
A; Molecule type: DNA
A; Residues; 1-405 <STO>
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C;Genetics:
A;Map position: 1
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C;Species: Saccharomyces cerevisiae
C;Date: 28-May_1993 #sequence_revision 24-Feb-1995 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               191 LBSLQNSVAASTGDGİVEDPCTPKĞY-----IYDTHSQKDSSGFLSEESKFKASL--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ---QVQAAGDFTKCRSATLAMLQEGKENCAYKHCSIGSTFTPNIQGSFLATENFFHTSKF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           53 PGISKFVQKVNEIGIYLTDCMERAREVIPRSOHQETPVYLGATAGWRLLRMESEELADRV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ETFGALDLGGASTQVTFVPQNQTIESPDNALQFRLYGK-DYNVYTHSFLCYGKDQA---L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 134 KTTGIVELGGASAQVTFVPSEHV---PPEFSRTISYGNVSYTIYSHSFLDFGQDAAEDKL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QQFEIQGIGNYQQCHQSILELF--NTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKF
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R;Dietrich, F.S.
Bubirted to the EMBL Data Library, December 1994
R;Description: The sequence of S. cerevisiae cosmids 9537, A;Reference number: $50433
A;Accession: $5043
A;Accession: $5043
A;Residues: 1-630 < DIE>
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19.3%; Score 453; DB 2; Lv
Best Local Similarity 27.2%; Pred. No. 1e-28;
Matches 130; Conservative 91; Mismatches 153;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; Score 469.5; DB 2;
; Pred. No. 2.4e-30;
65; Mismatches 145;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           386
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1	RESULT 6 G8442 probable nucleoside triphosphatase [imported] - Arabidopsis thaliana C;Species: Arabidopsis thaliana (mouse-ear cress) C;Date: 02-Feb-2001 #sequence_revision 02-Feb-2001 #text_change 09-Jul-2004 C;Date: 02-Feb-2001 #sequence_revision 02-Feb-2001 #text_change 09-Jul-2004 C;Accession: G8442 R;Lin, X., Kaul. S.; Rounsley, S.D.; A.; Shan, M.; VanAken, S.E.; Umayam, E.; Taiaus, C.; Nierman, W.C.; White, O.; Eisen, J.A.; Shan, M.; VanAken, S.E.; Umayam, E.; Taiauture, A.; Reference and analysis of chromosome 2 of the plant Arabidopsis thaliana A;Reference number: A84420; MUID:20083487; PMID:10617197 A;Accession: G84442 A;Accession: G84442 A;Accession: G84442 A;Residues: Drah A;Residues: Drah A;Residues: 1-516 <sto> A;Cross-references: UNIPROT:080612; GB:AE002093; NID:g3461821; PIDN:AAC32915.1; A;Amap position: 2 A;Map position: 2</sto>	triphosphatase chromatin-as 17.3%; Score 406.5, DB 2; 27.5%; Pred. No. 4.6e-25; ive 68; Mismatches 187; SSHTSLYIYKWPAEKENDTGVVHQVEEC!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!	Db 182 DEWASVISGSDEGVYAWVANPALGSLGGDPLKTTGINIGHTH 11
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GSPDB:GN

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A;Residues: 1-557 cMIL>
A;Residues: 1-557 cMIL>
A;Cross-references: EMBL:U39652; NID:g1049390; PID:g1049394; PIDN:AAA80403.1; CESP:R07E4.
A;Experimental source: strain Bristol N2
C;Genetics:
A; Authors: Salzberg, S.L.; Schwartz, J.R.; Shinn, P.; Southwick, A.M.; Sun, H.; Tallon, ker, M.; Wu, D.; Yu, G.; Fraser, C.M.; Venter, J.C.; Davis, R.W. A; Title: Sequence and analysis of chromosome 1 of the plant Arabidopsis.
A; Accession: C86276
A; Accession: C86276
A; Status: preliminary
A; Molecule type: DNA
A; Residues: 1-508 «STO>
A; Residues: U-508 «STO>
A; Residues: U-508 «STO>
A; Coss-references: UNIPROT: Q9XI63; GB: AE005172; NID: g5080800; PIDN: AAD39310.1; GSPDB: GN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240 E----ILRDPCFHPGYKKVVNV-SDLYKTPCTK-RFEMTLPFQQFEIQGIGNYQQCHQSI 293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             268 STGEGİVPDPCIPKGYILETNLOKDLPGFLADKGKFTATL-----QAAGNFSECRSAA 320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 --KKECAQPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQ 408
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CjSpecies: Caenorhabditis elegans
CjSpecies: Caenorhabditis elegans
CjDate: 20-Sep-1999 #sequence_revision 20-Sep-1999 #text_change 20-Sep-1999
CjAccession: T16696
R;Miller, N.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        129 GARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNN-QETFGALDLG-----GA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          10 NVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVK-GPGISKFVQKVNEIGIY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            182 STQVTFVPQNQTIESPDNALQFRLYGK-DYNVYTHSFLCYGKDQALMQKLAKDI-QVASN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
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16.3%; Score 383.5; DB 2; Length 557;
Best Local Similarity 25.9%; Pred. No. 3.8e-23;
Matches 123; Conservative 85; Mismatches 194; Indels 73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Gene: CESP:R07E4.4
A;Introns: 39/1; 67/1; 145/2; 192/1; 244/3; 317/3; 451/3; 488/2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Map position: 1
C;Superfamily: nucleoside triphosphatase chromatin-associated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 16.8%; Score 394.5; DB 2; Best Local Similarity 28.2%; Pred. No. 4.3e-24; Matches 123; Conservative 71; Mismatches 171;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 409 GSD--AGWTLG-YMLN 421
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C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Species: O2-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004
C;Accession: C86276
R;Theologis, A.; Ecker, J.R.; Palm, C.J.; Federspiel, N.A.; Kaul, S.; White, O.; Alonso, Chin, C.W.; Chung, M.K.; Conn, L.; Conway, A.B.; Conway, A.R.; Creasy, T.H.; Dewar, K.; ansen, N.F.; Hughes, B.; Hulzar, L.
Nature 408, 816-820, 2000
A;Authors: Hunter, J.L.; Jenkins, J.; Johnson-Hopson, C.; Khan, S.; Khaykin, E.; Kim, C.C., A.; Li, J.H.; Li, Y.; Lin, X.; Liu, S.X.; Liu, Z.A.; Lucos, J.S.; Maiti, R.; Marziali, Rizzo, M.; Rooney, T.; Rowley, D.; Sakano, H.
                                                                                                                                                                                      hypothetical protein C33H5.14 - Caenorhabditis elegans Ciscote.1999 #text_change 09-Jul-2004 C;Species: Caenorhabditis elegans C;Species: Caenorhabditis elegans C;Species: 29-Oct-1999 #sequence_revision 29-Oct-1999 #text_change 09-Jul-2004 C;Accession: T34147
R;Bradshaw, H.; Stellyes, L.
R;Bradshaw, H.; Stellyes, L.
R;Bradshaw, H.; Stellyes, L.
Submitted to the EMBL Data Library, November 1995
A;Description: The sequence of C. elegans cosmid C33H5.
A;Reference number: Z21482
A;Reference number: Z21482
A;Reference number: Z21482
A;Accession: T34147
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Status: preliminary;
A;Molecule type: DNA
A;Status: L485 CBRA>
A;Coss-references: UNIPROT:018411; EMBL:U41007; PIDN:AAA82272.1; CESP:C33H5.14
A;Experimental source: strain Bristol N2
C;Genetics:
A;Genetics:
A;Genetics:
A;Hutrons: 2211; 8311; 120/2; 167/1; 269/3; 399/3
C;Superfamily: nutleoside triphosphatase chromatin-associated
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELF 297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  298 NTS---YCPYSQCAFNGIFLPPLQ---GDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMK 351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GIYLIDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSNYPF 125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   82 VEYLTPLRFAEEHIPYEQLGETDLLIFATAGMRLLPEAQKDAIIKNLQNGLKSVTALRV 141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        126 DFQGARIITGQEEGAYGWITINYLLGKFSOKTRWFSIVPYETNNQETFGALDLGGASTQV 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SDSNIRIIDGAWEGIYSWIAVNYILGRFDKE------NDSKVGMIDMGGASVQI 189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                186 TFVPQNQTIESPD--NALQFRLYGKD-----YNVYTHSFLCYGKDQALWQKLAKDIQVA 237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             247
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     10 NVKYGIVLDAGSSHTSLYIYKWPAEKENDTGV---VHQVEECRVK-GPGISKFVQKVNEI
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 17.1%; Score 402.5; DB 2; Length Best Local Similarity 26.7%; Pred. No. 8.9e-25; Matches 116; Conservative 69; Mismatches 187; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KIOGSDAGWTLGYML 420
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Oy 243 RDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQ0FEIGGIG 284	RESULT 11 S48859 nucleoside triphosphatase precursor, chromatin-associated - garden pea C;Species: Pisum sativum (garden pea) C;Date: 13-Jan-1995 #sequence_revision 13-Jan-1995 #text_change 09-Jul-2004 C;Accession: S6147, 848859 R;Hsieh, H.L.; Tong, C.G.; Thomas, C.; Roux, S.J. Plant Mol. Biol. 30, 135-147, 1996 A;Title: Light-modulated abundance of an mRNA encoding a calmodulin-regulated, chromatin A;Reference number: S65141; MUID:96197404; PMID:8616230 A;Accession: S65147 A;Molecule type: mRNA A;Residues: 1-455 cH82> A;Cross-references: UNIPROT:P52914; EMBL:232743; NID:9563611; PIDN:CAA83655.1; PID:95636 C;Soperfamily: nucleoside triphosphatase chromatin-associated C;Keywords: nucleus	Query Match 15.9%; Score 374; DB 2; Length 455; Best Local Similarity 25.6%; Pred. No. 1.7e-22; Matches 116; Conservative 80; Mismatches 169; Indels 88; Gaps Qy 13 YGIVLDAGSSHTSLYIKWPAEKENDTGVVHQVEECRVKGPGISKFVQKVNEIGIYL Db 44 YAVPPAGSTGSRIHVYHFNQNLELHIGGVEYYNKITPGLSSYANNPEQAAKSL Qy 70 TDCMERAREVIPRSQHOFPVYLGATAGMRLLRMESEELADRYLDVVERSLSN-YPFDFQ CQ	OY 239 NEILRDECHIPGYKKVVNVSDLYKTPCTKRFEMTLPFQDFEIQGIGNYQQCHQS 292
Qy	Qy 228 QKLAKDIQVASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIGGIG 284	RESULT 10 T39109 probable guanosine-diphosphatase - fission yeast (Schizosaccharomyces pombe) c;Species: Schizosaccharomyces pombe C;Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 09-Jul-2004 C;Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 09-Jul-2004 C;Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 09-Jul-2004 R;Bazrell, B.G.; Rajandream, M.A.; Quail, M.; Seegar, K.; Harris, D. submitted to the EMBL Data Library, October 1999 A;Reference number: Z21828 A;Accession: T39109 A;Retus: preliminary; translated from GB/EMBL/DDBJ A;Accession: T39109 A;Residues: 1-556 *GAR> A;Residues: 1-556 *GAR> A;Residues: 1-556 *GAR> A;Cross-references: UNIPROT:Q9UT35; EMBL:AL121741; PIDN:CAB57338.1; GSPDB:GN00066; SPDB A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics:	Query Match 16.2%; Score 381.5; DB 2; Length 556; Best Local Similarity 27.1%; Pred. No. 5.5e-23; Matches 121; Conservative 71; Mismatches 181; Indels 73; Gaps 17; Qy 12 KYGIVLDAGSSHTSLYIYKWPAEKENDTGVUQVEECRVKGPGISKFVQKVNBIGIYL 69 11; 11; 11; 11; 11; 11; 12; 13; QVLMIDAGSSHTSLYIYKWPAEKENDTGVUQVEECRVKGPGISKFVQKVNBEIGIYL 69 133 QVLMIDAGSTGSRVHVYQPNNCNPSPILEEEFFFMIEPGISSFAGDPEGAARL 187 187 Qy 70 TDCMERAREVIPESCHOFTPVYLGATAGMALLRMESEBLADRVLDVVRESLSN-YPFDF- 127 120 121; 11; 11; 11; 11; 11; 11; 127 127 127 127 127 127 127 127 127 127 127 127 127 127 127 127 127 127 127 127 127 127 127 127 127 127 127 127 127 127 127 127 127 127 128 128 128 128 128

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A;Reference number: Z19750
A;Accession: T23508
                                                                                                         A,Reference number: Z15359
A,Accession: T04439
A,Molecule type: DNA
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Best Local Similarity
Matches 104; Conserv
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submitted to the EMBL
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                                                                                                                                                                                                           C;Genetics:
A;Map position: 4
A;Introns: 79/3; 118
A;Note: T18B16.150
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olved in starch synthesis.

C;Genetics:
A;Gene: rropl
C;Genetics:
A;Gene: rropl
C;Superfamily: nucleoside triphosphatase chromatin-associated
C;Superfamily: nucleoside triphosphatase chromatin-associated
C;Keywords: glycoprotein; hydrolase; transmembrane protein
C;Keywords: glycoprotein; hydrolase; transmembrane protein
F;1-30-Yomain: stylen=squence #status predicted cYMM-
F;31-454/Product; ATP-diphosphohydrolase #status predicted cYMM-
F;44-65/Region: actin-heat shock protein 70-hexokinase beta-phosphate binding
F;44-65/Region: nucleotide binding #status predicted
F;392-212/Region: nucleotide binding #status predicted
F;390-410,427-446/Region: hydrophobic carboxyl end
F;350-410,427-446/Region: hydrophobic carboxyl end
F;151,262/Binding site: carbohydrate (Asn) (covalent) #status predicted
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   363 YLNAAKVACQTNVADIKSIFPKTQDRNIPYLCMDLIXEYTLLVDG--FGLNPHKEITVIH 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             205
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             265 NPCALEGC--DGYYSYGGVD--YKVKAPKKG------SWKRCRRLTRHALK 306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                299 -TSYCPYSQCAFNGIFLPPLQGDFG-----AFSAFYFVMKFLNLTSEKVSQE----K 345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               307 INAKCNIEBCTFNGVW----NGGGGDGQKNIHASSFFYDIGAQVGIVDTKFPSALAKPIQ 362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 346 VTEMMKKPCAQPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIG 405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LIDCMERAREVIPRSOHOETPVYLGATAGMRLLRMESEELADRVLDVVE---RSLSNYPF 125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHOSILELFN 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    158 KDÓWVTÍLDGTQEGSÝMWAAINÝLLGNLGK------DYKSTTATIDLGGGSVÓM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQKVNEIGIY
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     206 AYAISNEQFAKAPQNEDGEPYVQQKHLMSKDYNLYVHSYLNYGQ-LAGRAEIFKASRNES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
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24.9%; Pred. No. 3e-19;
ive 80; Mismatches 185; Indels
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Matches 112, Conservative
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RESULT 13

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EMBL: Z83113; PIDN: CAB05544.1; GSPDB: GN00023; CESP: KO.
                                                                                                                                                              C;Accession: T04439
R;Bevan, M.; Benes, V.; Rechmann, S.; Borkova, D.; Ansorge, W.; Bancroft, I.; Mewes, H.W submitted to the Protein Sequence Database, April 1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   16;
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C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 09-Jul-2004
C;Accession: T23508
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         64;
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hypothetical protein T18B16.150 - Arabidopsis thaliana
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 30-Apr-1999 #sequence_revision 30-Apr-1999 #text_change
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length
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A;Introns: 36/3; 83/3; 189/1; 300/2; 412/3
C;Superfamily: nucleoside triphosphatase chromatin-associated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Residues: 1-1052 <BEV>
A;Cross-references: UNIPROT:049676; EMBL:AL021687
A;Experimental source: cultivar Columbia; BAC clone T18B16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          118/3; 217/1; 295/3; 396/3; 531/2; 815/3
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         14.1%; Score 332; DB 2; L. Collarity 26.9%; Pred. No. 1.5e-18; Conservative 70; Mismatches 149;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 2;
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A;Molecule type: DNA
A;Residues: 1-479 <WIL>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Data Library, November 1996
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A;Experimental source: clone K08H10
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89 EEHKYVIMIDAGSTGSRVHIYKFDVCTSPPTLL---DEKFDMLEPGLSSF--DTDSVGAA 143
                                                                                                                                                                                                                                                                                                                                                                                                                                        144 NSLDPLLKVAMNYVPIKARSCTPVAVKATAGLRLLGDAKSSKILSAVRDHLEK---DYPP 200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         201 PVVEGDGVSIMGGDEEGVFAWITTNYLLGNIG------ANGPKLPTAAVFDLGG 248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            249 GSTQIVFEPTFPINEKMVDGEHKFDLKFGDENÝTLÝQFSHLGÝGLKEGRNKVNSVLVENA 308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             231 AKDIQVASNE----ILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIG- 284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              285 ---NYQQCHQSILELFN-TSYCPYSQCAFNGIFLPPL-----QGDFGAFSAFYFVMKFL 334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          357 DEPSGAQCRFLTDEILNKDAQCQSPPCSFNGVHQPSLVRTFKESNDIYIFSYFYDRTRPL 416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          335 NLTSEKVSQEKVTEMMKKFC--AQPWEEIKTSYAGVKEKYLSE--YCFSGTYILSLILQG 390
                                                                                    C;Superfamily: nucleoside triphosphatase chromatin-associated
C;Keywords: glycoprotein; Golgi apparatus; hydrolase; transmembrane protein
F:10-24/Domain: transmembrane #status predicted <TMM>
F:10-25/Binding site: carbohydrate (Asn) (covalent) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              309 LKDGKILKGDNTKTHQLSSPCLPP----KVNATNEKVTLESK-----ETYTIDFIGP
                                                                                                                                                                                                                                                                                                           9 ENVKYGIVLDAGSSHTSLYIYKMPAEKENDTGVVHQVEECRVKGPGISKFVQKVNEIGI-
                                                                                                                                                                                                                                                                                                                                                                                                            -YLTDCMERAREVIPRSQHQETPVYLGATAGMRIL-RMESEELADRVLDVVERSLSNYPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181 ASTQVTFVPQ----KDTIESPDNALQFRLYGKDYNVYTHSFLCYG-----KDQALWQKL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ---DFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQE--TFGALDLGG
                                                                                                                                                                                                                                                             Matches 121; Conservative
                                                               Description: hydrolase
                                                                                                                                                                                                                                   Similarity
A; Map position: 5L
C; Function:
                                                                                                                                                                                                          Query Match
Best Local (
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                                        19;
                                                                                                                                                                                                            DSLEPLLQRARKEVPHFMMEKTPITLKATAGLRLL---PGDMADDILESVEERIFNSGFF 156
                                                                                                                                                                                                                                                                                                             213 TQLTYWPNNEAVFSEHVGYERDIDF--FGHHIRLFTHSFLGNGLIAARLNILQLETDNEI 270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  297 FNTSYCPYSOCAFNGIFLPPLQGDFGAFSAFYFVMKFLNL-----TSEKVSQEKVTEMM 350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                67 IYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSNYPF- 125
                                                                                                                                                                                                                                                                                                                                                                                TQVTFVPQNQTIESP----DNALQFRLYGKDYNVYTHSFLCYGKDQALWQ--KLAKDIQV 236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              237 ASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILEL 296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  271 ESTHQLITSCMPEGYQ------LITEWEYALKFWNINGSSSHSFESCYGTTKNF 317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                318 VESSEI-------MHLRELKGS-PVYLFSYFFDRALNSGLVKGNEGGKIELRQFKEAA 367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KKFCAQPWBBIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGS 410
                                                                                                                                     66
                                                                                                             13 YGIVLDAGSSHTSLYIYKW---PAEKENDTGVVHQVEE---CRVKGPGISKFVQKVNEIG
                                                                                                                                                                                                                                                                               -DFQGA-RIITGQEEGAYGWITINYLLGK-FSQKTRWFSIVPYETNNQETFGALDLGGAS
                                        Gaps
                                      65;
                                      Indels
          27.0%; Pred. No. 9.2e-19; cive 71; Mismatches 191;
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                                 121; Conservative
          Similarity
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          Best Local
Matches 12
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230

356

180

67

Gaps

73;

70; Mismatches 188; Indels

Length

DB 2;

13.6%; Score 320.5; DB 2 26.8%; Pred. No. 4.6e-18;

475

417 GMPLSFTLNE-LNDLARIVCKGEETWNSVFSGIAGSLDELESDSHFCLDLSFQVSLLHTG

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391 YHFTADSWEHIHFIGKIQGSDAGWTLGYMLNL 422 YDIPLO--RELRTGKKIANKEIGWCLGASLPL

A; Molecule: type: DNA
A; Readules: 1-518 (ABE>
A; Cross-teferences: UNIPROT: P32621; EMBL: L19560; NID: 9349392; PIDN: AAA34656.1; PID: 93493
A; Note: sequence extracted from NCBI backbone (NCBIN: 134708, NCBIP: 134711) guanosine-diphosphatase (EC 3.6.1.42) - yeast (Saccharomyces cerevisiae)
N;Alternate names; protein YEL042w
C;Species Saccharomyces cerevisiae
C;Decies 21-Sep-1993 #sequence revision 18-Nov-1994 #text_change 09-Jul-2004
C;Accession: A40132; B40732; \$30837; \$50502
E;Abeljon, C.; Yanagiawa, K.; Mandon, B.C.; Hausler, A.; Moremen, K.; Hirschberg, C.B.;
J. Cell Biol. 122, 307-323, 1993
A;Title: Guanosine diphosphatase is required for protein and sphingolipid glycosylation
A;Reference number: A40732; MUID:99308137; PMID:8391537 Accession: A40732

A;Molecule type: protein A;Residues: 125-144;238-257;276-281;366-374;399-412 <AB2> R;Mulligan, U.T.; Dietrich, F.S.; Hennessey, K.M.; Sehl, P.; Komp, C.; Wei, Y.; Taylor, submitted to the EMBL Data Library, February 1993 A;Reference number: S30812

A;Accession: S30837
A;Molecule type: DNA
A;Molecule type: DNA
A;Molecule type: DNA
A;Molecule type: DNA
A;Cross-references: G8:U18779; EMBL:L10830; NID:g603625; PIDN:AAB65000.1; PID:g603637
R;Dietrich, F.S.
B;Dietrich, F.S.
A;Description: The EMBL Data Library, December 1994
A;Description: The sequence of S. cerevisiae cosmids 8199, 8334, and 9871.

A;Cross-references: EMBL:U18779; NID:g603625; PIDN:AAB65000.1; PID:g603637; MIPS:YEL0424 C;Genetics:

A; Molecule type: DNA A; Residues: 1-518 <DIE>

A; Accession: S50502

A; Cross-references: SGD:S0000768; MIPS: YEL042w

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GenCore version 5.1.6
(c) 1993 - 2005 Compugen Ltd.
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ENP1_MOUSE
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Q7YTA4	QBK0L2	Q8UVX9	Q9X162	QGNQAB	Q94AP8	Q8H1D8	062543	Q6FRC2	Q8CCV2	Q94EZ2	Q9M9T7	06DH30	080612
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32	33	34	35	36	37	38	39	40	41	42	43	44	45

ALIGNMENTS

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TISSUE=Placenta;
TISSUE=Placenta;
MEDINE=99332082; PubMed=10405171; DOI=10.1016/S0014-5793(99)00751-6;
Matsumoto M., Sakurai Y., Kokubo T., Yagi H., Makita K., Matsui T.,
Titani K., Pujimura Y., Narita N.;
"The cDNA cloning of human placental ecto-ATP diphosphohydrolases I and II.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Christoforidis S., Papamarcaki T., Galaris D., Kellner R., Tsolas O.; "Purification and properties of human placental ATP diphosphohydrolase.";
                                                                                                                                                                                                                                                                                                                       Maligzewski C.R., Delespesse G.J.T., Schoenborn M.A., Armitage R.J., Fanslow W.C., Nakajima T., Baker E., Sutherland G.R., Poindexter K., Birks C., Alpert A., Friend D., Gimpel S.D., Gayle R.B. III; "The CD39 lymphoid cell activation antigen. Molecular cloning and structural characterization."; J. Immunol. 153:3574-3583(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE OF 1-30; 49-65; 94-97; 88-93; 193-223; 245-265; 382-385 AND 399-405 (ISOFORM PLACENTAL I).
TISSUE=Placenta;
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                                 P49961: G90QO9; O9X3O3; Created)
01-OCT-1996 (Rel. 34, Created)
10-OCT-2004 (Rel. 34, Last sequence update)
25-OCT-2004 (Rel. 45, Last annotation update)
Ectonucleoside triphosphate diphosphohydrolase 1 (EC 3.6.1.5)
(NTPDasel) (Ecto-ATP diphosphohydrolase) (ATPDase) (Lymphoid cell activation antigen) (Ecto-apyrase) (CD39 antigen).
Homo sapiens (Human)
                                                                                                                                                                                                             Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia; Eutheria; Primates, Catarrhini, Hominidae, Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TISSUB-Umbilical volume.
MEDLINE=97149443; PubMed=8996251;
Robson S.C., Kaczmarck E., Siegel J.B., Candinas D., Koziak K., Millan M., Hancock W.W., Bach F.H.;
"Loss of Arp diphosphohydrolase activity with endothelial cell activation.",
J. Exp. Med. 185:153-163(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A. (ISOFORMS PLACENTAL I AND PLACENTAL II).
                     510 AA
                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A. (ISOFORM VASCULAR)
MEDLINE=95015846; PubMed=7930580;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           (ISOFORM VASCULAR)
                     PRT;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eur. J. Biochem. 234:66-74(1995)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEBS Lett. 453:335-340(1999).
                     STANDARD;
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                                                                                                                                                                                                                                                NCBI_TaxID=9606;
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                     ENP1 HUMAN
ENP1 HUMAN
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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Isold=P49961-1; Sequence=Displayed;
Name=Placental I;
Isold=P49961-2; Sequence=VSP_003607;
Name=Placental II;
Name=Placental II;
Sequence=VSP_003607;
Isold=P49961-3; Sequence=VSP_003607, VSP_003608, VSP_003609;
TISSUE SPECIFICITY: Expressed primarily on activated lymphoid cells. Also expressed in endothelial tissues. The vascular isoform and the placental isoform II are present in both placenta and umbilical vein, whereas placental isoform I is present in placenta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=20102721; PubMed=10636909; DOI=10.1074/jbc.275.3.2057;
Koziak K., Kaczmarek E., Kittel A., Sevigny J., Blusztajn J.K.,
Schulte Am Ebch J. II, Imai M., Guckelberger O., Goepfert C., Qawi I.,
Robson S.C.;
           Makita K., Shimoyama T., Sakurai Y., Yagi H., Matsumoto M., Narita N. Sakamoto Y., Saito S., Ikeda Y., Suzuki M., Titani K., Fujimura Y.; "Placental ecto-ATP diphosphohydrolase: its structural feature distinct from CD39, localization and inhibition on shear-induced
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Could also
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          only.

PTM: The N-terminus is blocked.

MISCELLANEOUS: Optimal pH is 7.0-7.5 with ATP as substrate and 7.5-8.0 with ADP.

7.5-8.0 with ADP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Palmitoylation targets CD39/endothelial ATP diphosphohydrolase to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               J. Biol.: Chem. 275:2057-2062 (2000).

J. Biol.: Chem. 275:2057-2062 (2000).

In the nervous system, could hydrolyze ATP and other nucleotides to regulate purinergic neurotransmission. Could a nucleotides to regulate purinergic neurotransmission. Could a be implicated in the prevention of platelet aggregation. Hydrolyzes ATP and ADP equally well.

CATALYTIC ACTIVITY: ATP + 2 H(2)0 = AMP + 2 phosphate.

CATALYTIC ACTIVITY: AIP + 2 H(2)0 = AMP + 2 phosphate.

CATALYTIC ACTIVITY: AIP + 1 H(2)0 = AMP + 2 phosphate.

AUBUNIT: Homodimer; disulfide-linked (By similarity).

HALTENATIVE PRODUCTS:
                                                                                                                                                                                MEDLINE-97115858; PubMed-8955160; DOI=10.1074/jbc.271.51.33116; Kaczmarek E., Koziak K., Sevigny J., Siegel J.B., Anrather J., Beaudoin A.R., Bach F.H., Robson S.C.; "Identification and characterization of CD39/vascular ATP
                                                                                                                                                                                                                                                                                                                                             CHARACTERIZATION.
MEDLINBE-96215.267; PubMed=8626624; DOI=10.1074/jbc.271.17.10391;
Mang T.F., Guidotti G.;
"CD39 is an ecto-(Ca24,Mg2+)-apyrase.";
J. Biol. Chem. 271:9898-9901(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SIMILARITY: Belongs to the GDA1 / CD39 NTPase family. DATABASE: NAME=PROW; NOTE=CD guide CD39 entry; WWW="http://www.ncbi.nlm.nih.gov/prow/cd/cd39.htm".
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Event=Alternative splicing; Named isoforms=3;
                                                                                                                                                                                                                                                                          diphosphohydrolase.";
J. Biol. Chem. 271:33116-33122(1996)
                                                                                                    platelet aggregation.";
Int. J. Hematol. 68:297-310(1998).
MEDLINE=99062444; PubMed=9846014;
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N-linked (GlCNAc. .) (Potential).
N-linked (GlCNAc. .) (Potential).
N-linked (GlCNAc. .) (Potential).
N-linked (GlCNAc. .) (Potential).
N-linked (GlCNAc. .) (Potential).
N-linked (GlCNAc. .) (Potential).
M-linked (GlCNAc. .) (Potential).
Tand isoform Placental II).
I and isoform Placental II).
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                                                                                                                                                                                                                                              VASNEILKDĒCFHPGYKKVVNVSDLYKT -> ASITQSRPĀ
PFTSAPPAPTSCCFLFQIQ (in isoform Placental
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GO; GO:0005887; C:integral to plasma membrane; TAS.
GO; GO:0007596; P:blood coagulation; TAS.
InterPro; IPR000407; GDA1_CD39_NTPase.
Parm; PPO1150; GDA1_CD39_NTPASE; 1.
PROSITE; PS01238; GDA1_CD39_NTPASE; 1.
Alternative splicing; Antigen; Calcium; Direct protein sequencing; Glycoprotein; Hydrolase; Lipoprotein; Magnesium; Palmitate;
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Missing (in isoform placental II).
/FIId=VSP 003609.
SS -> G (in Ref. 5).
D -> K (in Ref. 4).
T -> TGET (in Ref. 5).
V -> Y (in Ref. 5).
W, -> Y (in Ref. 5).
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Extracellular (Potential)
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RESULT 2 ENP1_MOUSE

EMBL; AJ133133; CAB41886.1; -. EMBL; AJ133134; CAB41887.1; -.

PIR; 156242; 156242. Genew; HGNC:3363; ENTPD1. MIM; 601752; -.

EMBL; S73813; AAB32152.1; -. EMBL; U87967; AAB47572.1; -.

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                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
MEDLINE=59101846; PubMed=7930580;
MEDLINE=59101846; PubMed=7930580;
Maliszewski C.R., Delespesse G.J.T., Schoenborn M.A., Armitage R.J.,
Panslow W.C., Nakajima T., Baker E., Sutherland G.R., Poindexter K.
Birks C., Alpert A., Friend D., Gimpel S.D., Gayle R.B. III;
"The CD39 lymphoid cell activation antigen. Molecular cloning and setructural characterization."
J. Immunol. 153:3574-3583(1994).
                                                                                                                                                                                                                        MEDLINE=98399871; PubMed=9730622;
Schoenborn M.A., Jenkins N.A., Copeland N.G., Gilbert D.J.,
Gayle R.B. III, Maliazewski C.R.;
"Gene structure and chromosome location of mouse Cd39 coding for an
              01-NOV-1997 (Rel. 35, Created)
01-NOV-1997 (Rel. 35, Last sequence update)
01-NOV-1997 (Rel. 35, Last sequence update)
05-JUL-2004 (Rel. 44, Last annotation update)
Ectonucleoside triphosphate diphosphohydrolase 1 (EC 3.6.1.5)
(NTPDasel) (Ecto-ATP diphosphohydrolase) (ATPDase) (Lymphoid cell activation antigen) (Ecto-apyrase) (CD39 antigen).
Name-Entpol; Synonyms-Cd39;
Mus musculus (Mouse).
                                                                                    Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Butheria; Rodentia; Sciurognathi; Muridae; Mus.
NCBI_TaxID=10090;
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Potential.
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510 AA
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STANDARD;
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                                                                                                                                                                                                                                                                                                                     VNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLS
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MEDLINE=99279253; PubMed=10349636; DOI=10.1016/S0076-6879(99)03004-9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi;
Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus.
NCBI_TaxID=10090;
                                                       ..) (Potential).
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...) (Potential).
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01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
Mus musculus adult male testis cDNA, RIKEN full-length enriched
11brary, clone:4921311C05 product:ectconucleoside triphosphate
diphosphohydrolase 1, full insert sequence.
                                      (Potential)
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STRAIN=C57BL/6J; TISSUE=Testis;
MEDLINE=21085660; PubMed=11217851; DOI=10.1038/35055500;
                                                                                                                      8E6A6113D2E13930 CRC64;
                                                                                                                                                           78.0%; Score 1835; DB 1; 76.4%; Pred. No. 2.5e-136;
cDNA cloning.";
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"High-efficiency full-length c
Meth. Enzymol. 303:19-44(1999)
                                                                                                                      57205 MW;
                                                                                                                                                                                                    Conservative
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226
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510 AA;
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Matches 337; Conserv
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SEQUENCE FROM N.A.
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122 NYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGA
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Name=Entpdl;
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Adachi J., Aizawa K., Akimura T., Arakawa T., Bono H., Carninci P.,
Adachi J., Aizawa K., Akimura T., Hara A., Hashizume W.,
A Fuvda S., Furuno M., Hanagaki T., Haracka T., Hizozane T.,
Hayashida K., Hayatsu W., Hiramoto K., Hiracka T., Hizozane T.,
A Kawai J., Kojima Y., Icoh M., Kagawa I., Kasukawa T.,
Kawai J., Kojima Y., Kondo S., Konno H., Koya S.,
Kurihara C., Matsuyama T., Miyazaki A., Murata M., Nakamura M.,
Nishi K., Nomura K., Numazaki R., Ohno M., Ohsato N., Osazaki Y.,
Saito R., Saitoh H., Sakai C., Sakazume N., Sano H.,
Sasaki D., Shibata K., Shinagawa A., Shiraki T., Sogabe Y., Tagami M.,
Tagawa A., Takahashi P., Takaku-Akahira S., Takeda Y., Tanaka T.,
Tomaru A., Toya T., Yasunishi A., Muramatsu M., Hayashizaki Y.;
EMBL; AKO29512; BACC6486.1; --
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GO; GO:0005605; Cibasal lamina; IDA.

GO; GO:00016021; C:integal to membrane; TAS.

GO; GO:0004020; F:apyrase activity; IDA.

GO; GO:0007186; P:ATP catabolism; IDA.

GO; GO:0007186; P:G-protein coupled receptor protein signalin. . .; IDA.

GO; GO:0009181; P:purine ribonucleoside diphosphate catabolism; IDA.

InterPro; IPR00407; GDAL_CD39_NTPase.
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STRAIN=CS7BL/61, TISSUE=Testis;
STRAIN=CS7BL/61, TISSUE=Pestis;
STRAIN=C30913; PubMed=11076861; DOI=10.1101/gr.152600;
MEDLINE=2039013; PubMed=11076861; DOI=10.1101/gr.152600;
A MEDLINE Shipte K., Itch M., Aizawa K., Nagaoka S., Sasaki N., Carninci P., A Konno H., Akiyama J., Nishi K., Kitsunai T., Tashiro H., Itch M., Ayamamoto R., Matamura S., Hazama M., Nishine T., Harada A., Ayamamoto R., Inoue K., Tosaka M., Ohara E., Watahiki M., Ayoneda Y., Ishikawa T., Ozawa K., Tanaka T., Matsuura S., Kawai J., Nokazaki Y., Muramatawa M., Inoue Y., Kira A., Hayashizaki Y.;
RIKEN integrated sequence analysis (RIGA) system-384 format sequencing pipeline with 384 multicapillary sequencer.";
                                                                  the RIKEN Genome Exploration Research Group Phase I & II Team; "Analysis of the mouse transcriptome based on functional annotation of 60,770 full-length cDNAs."; Nature 420:563-573(2002).
                                                                                                                                                             STRAIN=C57BL/6J; TISSUE=Testis; MEDLINE=20499374; PubMed=11042159; DOI=10.1101/gr.145100; MEDLINE=20499374; PubMed=11042159; DOI=10.1101/gr.145100; Carninci P., Shibata Y., Hayatsu N., Sugahara Y., Shibata K., Itoh M., Konno H., Okazati Y., Muramatsu M., Hayashizaki Y.; Normalization and subtraction of cap-trapper-selected cDNAs to prepare full-length cDNA libraries for rapid discovery of new genes."; Genome Res. 10:1617-1630(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TONKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQK
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Best Local Similarity 76.4%; Pred. No. 2.7e-136;
Matches 337; Conservative 45; Mismatches 55;
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                        SEQUENCE FROM N.A.
STRAIN-C57BL/6J; TISSUE-Testis;
The FANTOM CONSORTIUM,
Nature 409:685-690(2001)
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KRAIN-CZECH II, TISSUE-Mammary tumnor;

STRAIN-CZECH II, TISSUE-Mammary tumnor;

RA MEDLINE-22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;

RA Strausberg R.L. Feingold B.A., Grouse L.H., Derge J.G.,

RA Altschul S.E., Zeeberg B., Bucrow K.H., Schaefer C.F., Bhat N.K.,

RA Altschul S.E., Zeeberg B., Bucrow K.H., Schaefer C.F., Bhat N.K.,

RA Altschul S.E., Zeeberg B., Bucrow K.H., Schaefer C.F., Bhat N.K.,

RA Altschul S.E., Zeeberg B. Bornaldo M.F., Casavant T.L., Scheetz T.E.,

RA Expleton M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

RA Brownstein M.J., McKernan K.J., Maltany S.J.,

Raha S.S., Loquellano N.A., Peters G.J., Abrameon R.D., Mullahy S.J.,

Rachards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk. S.M.,

Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk. S.M.,

Richards S., Worley K.C., Hale S., Garcia A.M., Gibbs R.A.,

Radan A., Young A.C., Shevchenko Y., Bouffard G.G.,

Ralessley R.W., Touchman J.W., Green E.D., Dickson M.C.,

Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,

Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,

Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,

Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield M. R. Generation and initial analysis of more than 15,000 full-length human M. R. Amanson R.M.
241
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                                                                                                      STQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEI
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
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Last annotation update)
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STRAIN=CZECH II; TISSUE=Mammary tumor;
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01-DEC-2001 (TrEMBLrel. 19,
01-DEC-2001 (TrEMBLrel. 19,
01-OCT-2003 (TrEMBLrel. 25,
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SEQUENCE FROM N.A.
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                                                                                                                       TISSUE-Lung
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                                                                                                                                                                                                                                                                                                                                                                                                                                                          62 VNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLS 121
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Klausner R.D., Collins F.S., Wagner L., Shemmen C.M., Schuler G.D.,
Altschul S.F., Zeeberg B., Busteva K.H., Schaefer C.F., Bhat N.K.,
Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Heish F.,
Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
Staplecon M., Soares M.B., Bonaldo M.F., Casavont T.L., Scheetz T.E.,
Brownstein M.J., Ugdin T.B., Toshiyuki S., Carninci P., Mullahy S.J.,
Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
                                                                                                                                                              38 TQNKPLPENVKYGIVLDAGSSHTNLYIYKWPAEKENDTGVVQQLEECQVKGPGISKYAQK
                                                                                                                                               2 TONKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQK
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GO; GO:0006200; P:ATP catabolism; IDA.
GO; GO:0007186; P:G-protein coupled receptor protein signalin. . .;
GO; GO:0007181; P:platelet activation; IDA.
GO; GO:009181; P:purine ribonucleoside diphosphate catabolism; IDA.
PEam; PPO1150; GDA1_CD39_NTPASE; 1.
PROSITE; PS01238; GDA1_CD39_NTPASE; 1.
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Catarrhini, Hominidae, Homo.
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MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;
                                                                                                  Length 510;
                                                                                                                         56; Indels
                                                                       510 AA; 57176 MW; E77BB644AE1413A0 CRC64;
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Last annotation update)
                                                                                               77.8%; Score 1830; DB 2; 76.2%; Pred. No. 6.2e-136; iive 45; Mismatches 56;
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Mammalia, Butheria, Primates,
NCBI_TaxID=9606,
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                                                                                                                       Matches 336; Conservative
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                                                                                                             Similarity
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Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
Blakesley R.W., Touchman J.W., Gareen E.D., Dickson M.C.,
Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,
Krzywinski M.I., Skalska U., Smailus D.E., Schnerch A., Schein J.E.,
Jones S.J., Marza M.A.,
"Generation and intital analysis of more than 15,000 full-length human and mouse cDNA sequences.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121 DQALWQKLAXDIQVASNEILKDPCFHPCYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QEKVTEMMKKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIH
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Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Rattus
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16-OCT-2001 (Rel. 40, Last sequence update)
15-OCT-2004 (Rel. 45, Last annotation update)
Ectonucleoside triphosphate diphosphohydrolase 1 (EC 3.6.1.5)
(NTPDasel) (Ecto-ATP diphosphohydrolase) (ATPDase) (Lymphoid cell activation anigen) (Ecto-apyrase) (CD39 antigen).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 372;
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"Characterization of brain ecto-apyrase: evidence for only
apyrase (CD39) gene.";
Brain per W.-
                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A., AND CHARACTERIZATION.
STRAIN-Sprague-Dawley; TISSUE-Brain, and Hippocampus;
PubMed=9221928;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        403 FIGKIQGSDAGWTLGYMLNLTNMIPAEQPLSTPLSHST 440
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                                                                                                                                                                              Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002)
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Brain Res. Mol. Brain Res. 47:295-302(1997).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity 100.
Matches 338; Conservative
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TISSUE=Pancreas;
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                               MEDLINE=20050856; PubMed=10581401; DOI=10.1016/S0169-328X(99)00244-2; Vlajkovic S.M., Housley G.D., Greenwood D., Thorne P.R.; "Evidence for alternative splicing of ecto-ATPase associated with termination of purinergic transmission."; Brain Res. Mol. Brain Res. 73:85-92(1999).
                                                                                                                                                                                                                                                             Neuropharmacology 36:1189-1200(1997).

-!- FUNCTION: In the nervous system, could hydrolyze ATP and other nucleotides to regulate purinergic neurotransmission. Could also be implicated in the pervention of platelet aggregation. Hydrolyzes ATP and ADP equally well.
-!- CATALYTIC ACTIVITY: ATP + 2 H(2)0 = AMP + 2 phosphate.
-!- COFACTOR: Requires calcium and magnesium.
-!- SUBCELLULAR LOCATION: Integral membrane protein (Potential).
-!- SUBCELLULAR EQCITY: Expressed in primary neurons and astrocytes, kidney, liver, muscle, thymus, lung and spleen.
                                                                                                                                                                    STRAIN=Sprague-Dawley; TISSUE=Brain; MEDI=10.1016/S0028-3908(97)00115-9; MEDI=15=15.2 Zimmermann H.; PubMed=9364474; DDI=10.1016/S0028-3908 (97)00115-9; Kegel B., Braun N., Heine P., Maliszewski C.R., Zimmermann H.; Man ecto-ATPase and an ecto-ATP diphosphohydrolase are expressed in
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SEQUENCE FROM N.A.
STRAIN=Wistar; TISSUE=Cochlea;
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                                                                                                                                                  SEQUENCE OF 432-511 FROM N.A.
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511 AA;
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les 328; Conserv
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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way
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                                                                                                                                                                                                        302 CPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFL-NLTSEKV-SQEKVTEMMKKFCAQPWE 359
                                                                                                                                                                                                                                                                                                                                                                CPYSQCAFNGVFLPPLGGSFGAFSAFYFVMDFFKKMANDSVSSQEKMTEITKNFCSKPWE 396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               360 EIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYM 419
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                                             217 STQVTFVPLNQTLEAPETSLQFRLYGTDYTVYTHSFLCYGKDQALWQKLAQDIQVSSGGI
                                                                                                                                                           LRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFE1QG1GNYQQCHQS1LELFNTSY
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-!- CATALYTIC ACTIVITY: ATP + 2 H(2)0 = AMP + 2 phosphate.

-!- COFACTOR: Requires calcium and magnesium (By similarity).

-!- SUBGNIT: Homodimer; disulfide-linked (By similarity).

-!- SUBCLIULAR LOCATION: Integral membrane protein (Potential).

-!- TISSUB SPECIFICITY: Highest expression found in vascular endothelium, smooth muscle, spleen and lung.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                16-OCT-2001 (Rel. 40, Last sequence update)
05-UUL-2004 (Rel. 44, Last annotation update)
Ectonucleoside triphosphate diphosphohydrolase 1 (EC 3.6.1.5)
(NTPDasel) (Ecto-ATP diphosphohydrolase) (ATPDase) (Lymphoid cell activation antigen) (Ecto-apyrase) (CD39 antigen).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
NCBI_TaxID=9823;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Lemmens R., Vanduffel L., Kittel A., Beaudoin A.R., Benrezzak O.,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        noncovalent interactions.
SIMILARITY: Belongs to the GDA1 / CD39 NTPase family.
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         (See http://www.isb-sib.ch/announce/
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                             EMBL, AJ133746; CAB95871.1; -.
InterPro; IPR000407; GDA1_CD39_NTPase.
Pfam; PF01150; GDA1_CD39; 1.
PROSITE; PS01238; GDA1_CD39_NTPASE; 1.
Antigen; Calcium; Direct protein sequencing; Glycoprotein; Hydrolase;
Magnesium; Transmembrane.
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 and
                                                                                         diphosphohydrolase 1.
Ectonucleoside triphosphate
diphosphohydrolase 1.7 kDa
Ectonucleoside triphosphate
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                                                                                Ectonucleoside triphosphate
                                                                                                                                         Potential.
Extracellular (Potential).
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(Cytoplasmic (Potential).
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this statement is not removed.
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        tities requires a license agreement (send an email to license@isb-sib.ch)
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ID ENPI BOVIN STANDARD;
AC 018956;
DT 16-OCT-2001 (Rel. 40, Created)
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Pfam; PR01150; GDA1_CD39; 1.
PROSITE; PS01238; GDA1_CD39_NTPASE; 1.
Antigen; Calcium; Direct protein sequencing; Glycoprotein; Hydrolase;
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Kaczmarek E., Koziak K., Sevigny J., Siegel J.B., Anrather J.,

Kaczmarek E., Koziak K., Sevigny J., Siegel J.B., Anrather J.,

Raczmarek E., Koziak K., Sevigny J., Siegel J.B., Anrather J.,

Beaudoin A.R., Bach F.H., Robson S.C.;

T diphosphohydrolase.";

J. Balol. Chem. 271:33116-33122 (1996).

C -!- FUNCTION: In the nervous system, could hydrolyze ATP and other

nucleotides to regulate purinergic neurotransmission. Could also

be implicated in the prevention of platelet aggregation.

Hydrolyzes ATP and ADP equally well.

C -!- CATALYTIC ACTIVITY: ATP + 2 H(2) O = AMP + 2 phosphate.

C -!- COFACTOR: Requires calcium and magnesium.

-!- COFACTOR: Requires calcium and magnesium.

-!- SUBGELJULAR LOCATION: Integral membrane protein (Potential).

-!- SIMILARITY: Belongs to the GDA1 / CD39 NTPase family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Could also
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        other
16-OCT-2001 (Rel. 40, Last sequence update)
5-JUL-2004 (Rel. 44, Last annoctation update)
Ectonucleoside triphosphate diphosphohydrolase 1 (EC 3.6.1.5)
(NTPDasel) (Ecto-ATP diphosphohydrolase) (ATPDase) (Lymphoid cell activation antigen) (CD39 antigen) (Ecto-apyrase).
Bos taurus (Bovine).
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N-linked (GlcMAc. .) (Potential).
N-linked (GlcMAc. .) (Potential).
N-linked (GlcMAc. .) (Potential).
N-linked (GlcMAc. .) (Potential).
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N-linked (GlcMAc. .) (Potential).
N-linked (GlcMAc. .) (Potential).
K -> N (in Ref. 2).
                                                                                                                                                                                                                                          Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
Bovinae; Bos.
                                                                                                                                                                                                           Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi
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                                                                                                                                                                                                                                                                                                                                                                                        TISSUE=Aortic endothelium;
Chang A.S., Garcia R.L., Chang S.M., Schilling W.P.;
Submitted (MAY-1997) to the EMBL/GenBank/DDBJ databases.
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Extracellular (Potential).
Potential.
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INV -> CGF (in Ref. 2).
K -> V (in Ref. 2).
20FE98F27BGD2F96 CRC64;
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69.8%; Pred. No. 6.5e-125;
ive 64; Mismatches 65;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     the RIKEN Genome Exploration Research Group Phase I & II Team; "Analysis of the mouse transcriptome based on functional annotation of 60,770 full-length cDNAs."; Nature 420:563-573 (2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STRAIN=C57BL/6J; TISSUB=Skin;
MEDLINE=2049374; PubMed=11042159; DOI=10.1101/gr.145100;
Carninci P., Shibata Y., Hayatsu N., Sugahara Y., Shibata K., Itoh M.,
Komno H., Okazaki Y., Muramatsu M., Hayashizaki Y.;
                      VNEINVYLTACMERAQKVIPSIQHMETPVYLGATAGMRLLRMENKQMADKILAAVASSIS
                                                                                                                                                WEBIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLG
                                                                                                                                                                                                                                  VNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLS
                                                   NYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGA
                                                              EYPFDFQGARIISGQEEGAYGWITVNYLLGKFTQKLSWFNLKPSKDDTQETYGALDLGGA
                                                                                            STOVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEI
                                                                                                       LRDPCFHPGYKKVVNVSDLYKTPCTKRFEMT---LPFQQFEIQGIGNYQQCHQSILELFN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STRAIN=C57BL/6J; TISSUE=Skin;
MEDLINE=99279253; PubMed=10349636; DOI=10.1016/S0076-6879(99)03004-9;
Carninci P., Hayashizaki Y.;
"High-efficiency full-length cDNA cloning.";
Meth. Enzymol. 303:19-44(1999).
                                                                                                                                                                                                                                                                                                                                                          01-MAR-2003 (TrEMBLrel. 23, Created)
01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
Mus musculus; 10 days neonate skin cDNA, RIKEN full-length enriched
library, clone:4732419M16 product:ectonucleoside triphosphate
laphosphohydrolase 1, full insert sequence. (Fragment).
Mus musculus; (Mouse)
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Sciurognathi; Muridae; Murinae; Mus
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STRAIN=C57BL/6J; TISSUE=Skin;
MEDLINE=21085660; PubMed=11217851; DOI=10.1038/35055500;
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                                                                                                                                                                                                                                                                                                                                          PRT;
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Mammalia; Eutheria; Rodentia;
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STRAIN=C57BL/6J; TISSUE=Skin;
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Submitted (JUIL-2011) to the EMBL/GenBank/DDBJ databases.

RWGD; MGI:102805; Entpdl.

CO: GO:0016201; C:nbesal lamina; IDA.

GO: GO:0005655; C:basal lamina; IDA.

GO: GO:00056505; C:basal lamina; IDA.

GO: GO:0000181; Papyrase activity; IDA.

GO: GO:0001806; P:G-protein coupled receptor protein signalin. .; IDA.

GO: GO:000181; P:purine ribonucleoside diphosphate catabolism; IDA.

RHIPPPRO; GDA1 CD39; I.
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SHIDATE K., ILCD M., Airawa K., Nagaoka S., Sasaki N., Carninci P., Shibata K., Itch M., Airawa K., Nagaoka S., Sasaki N., Carninci P., Shibata K., Ishi Y., Nakamura S., Hazama M., Nishinc H., Itch M., Sumi N., Ishi Y., Nakamura S., Hazama M., Nishinc T., Haarada A., Sumi N., Ishi Y., Nakamura S., Hazama M., Nishinc T., Kashiwagi K., Yamamoto R., Inoue K., Togawa Y., Izawa M., Ohara E., Watahiwagi K., Yoneda Y., Ishikawa T., Ozawa K., Tanaka T., Matsuura S., Kawai J., Andraki N., Matsuura S., Kawai J., Nazaki Y., Muramatsu M., Inoue Y., Kira A., Hayashizaki Y., Rawai T., Matsuura S., Kawai J., Garaki Y., Muramatsu M., Inoue Y., Kira A., Hayashizaki Y., Sayatem-1981 (RISA) system-1984-format sequencing pipeline with 384 multicapillary sequencer.",
prepare full-length cDNA libraries for rapid discovery of new genes."; Genome Res. 10:1617-1630(2000).
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Pfam; PF01150; GDA1_CD39; 1.
PROSITE; PS01238; GDA1_CD39_NTPASE; 1.
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SEQUENCE FROM N.A.
TISSUE=Spleen;
Klein S., Gerhard D.S.;
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TISSUE=Spleen;
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Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Amphibia, Batrachia, Anura, Mesobatrachia, Pipoidea, Pipidae,
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Klein S., Gerhard D.S.;

Submitted (JUL_2004) to the EMBL/GenBank/DDBJ databases.

EMBL; BC076662; AAH76662.1; -.

EMBL; BC076662; AAH76662.1; -.

EMBL; BC076677; Friydrolase activity; IEA.

InterPro; IPR000407; GDA1_CD39_NTPase.

PEam; PF01150; GDA1_CD39; 1.

PROSITE; PS01238; GDA1_CD39; NTPASE; 1.

SEQUENCE 508 AA; 57322 MW; 12CAEACOSBEABDEB CRC64;
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Last annotation update)
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60.2%; Pred. No. 6.5e-106;
ive 75; Mismatches 97;
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                                                                                 GWTLGYMLNLTNMIPAEQPLSTPLSHST 440
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                                                                                                                                                                                                                                                                     PRELIMINARY;
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Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D., Rausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D., Riausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D., Ralechul S.F., Zeeberg B., Buerow K.H., Schwee C.F., Bhar N.K., Ropkins R.F., Jordan H., Moore T., Max. S.I., Wang J., Haieh F., Stapeleton M., Soaree M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E., Brownstein M.J., Uddin T.B., Toshiyuki S., Carninci P., Prange C., Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J., Rochaetz T.E., Scheetz T.E., Stapeleton M.J., McKernan K.J., Malky J.J., Hulyk S.W., Willalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A., Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W., Wilting M., Madan A., Youngaren E.J., Lu X., Gibbs R.A., Whiting M., Madan A., Youngus S., Sanchez A., Whiting M., Madan A., Youngus A.C., Grimmond A., Schmutz J., Myers R.M., Butterfield Y.S., & Rodriguez A.C., Grimmood J., Schmutz J., Myers R.M., Butterfield Y.S., A Jones S.J., Marra M.A.;

H. Generation and initial analysis of more than 15,000 full-length human property of the servence of the servence of the servence of the servence of the servence of the servence of the servence of the servence of the servence of the servence of the servence of the servence of the servence of the servence of the servence of the servence of the servence of the servence of the servence of the servence of the servence of the servence of the servence of the servence of the servence of the servence of the servence of the servence of the servence of the servence of the servence of the servence of the servence of the servence of the servence of the servence of the servence of the servence of the servence of the servence of the servence of the servence of the servence of the servence of the servence of the servence of the servence of the servence of the servence of the servence of the servence of the servence of the servence of the servence of the servence of the servence of the servence o
337 TYSHCSFNGVFQPSLDGTFGAFSAYYFVMNFLNLTNEQMSLDKVKETVERHCSRPWDEVK 396
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    363 TSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLNL 422
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Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
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Klein S.L., Strausberg R.L., Wagner L., Pontius J., Clifton S.W.,
Richardson P.;
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TISSUE=Spleen;
MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;
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Best Local Similarity 57.08
Matches 251; Conservative
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SEQUENCE FROM N.A.
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PubMed=12477932; DOI=10.1073/pnas.242603899;
Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
Hopkins R.F., Jordan H., Moorer T., Max S.I., Wang J., Hsieh F.,
Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
                                                                                                                                                          QNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQKV
                                                                                                                                                                        QNKPLPKNIKYGIVLDAGSSHTSVYIYEWPSEKENDTGVVQQINDCKVEGNGISSYGHEP
                                                                                                                                                                                                                            TKAGLSLOKCMNKARQVI PEMQQKET PVYLGATAGMRLLRLNNATWAEEVLSSVENMLRS
                                                                                                                                                                                                                                                               YPFDFQGARIITGQBEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGAS
                                                                                                                                                                                                                                                                                        PPPDPQGARIITGQEEGAYGWITINYLLGNFIQDSGWFKYMP-NFKPTGTSGALDLGGAS
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25-OCT-2004 (TrEMBirel. 28, Last sequence update)
25-OCT-2004 (TrEMBirel. 28, Last annotation update)
26-CT-2004 (TrEMBirel. 28, Last annotation update)
26-100819 protein.
Name=zgc:100819,
Brachydanio rerio (Zebrafish) (Danio rerio).
Brachydanio rerio (Zebrafish) (Actinopterygii; Releostei; Ostatiophysi; Cypriniformes; Cyprinidae; Danio.
NCBI TaxID=7955;
                                                                                                                                5;
                                                                                                      Length 508;
                                                                                                     60.3%; Score 1418; DB 2; Length 5
59.1%; Pred. No. 2.2e-103;
ive 72; Mismatches 105; Indels
(JUN-2004) to the EMBL/GenBank/DDBJ databases
                                                                           57049 MW; BD205818A06C523B CRC64;
         EMBL; BC073267; AAH73267.1; -...
GO; GO:0016787; F:hydrolase activity; IEA.
InterPro; IPR000407; GDA1_CD39_NTPase.
Pfam; PF01150; GDA1_CD39_1.
PROSITE; PS01238; GDA1_CD39_1.
SEQUENCE 508 AA; 57049 MW; BD205818A06
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Submitted
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Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A., Fahey J., Helton B., Ketteman M., Madan A., Rodrigues S., Sanchez A., Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G., Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C., Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S., Krzywniski M.I., Skalaka U., Smailus D.E., Schnerch A., Schein J.E., Jones S.J., Marra M.A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    202 TQITFVPQ-QIIESSDNSIDFRLYGNDYHLYTHSFLCYGKDQALKLAMAEKLRSTPDKTD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             261 AILLRDPCFHPGYNTTKTLESV-NTPCMKPLKM--PKEGFSHVGLGNWSQCQESIRKVFN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      --ILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         123 YPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGAS
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Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Butheria; Rodentia; Sciurognathi; Muridae; Musinae; Mus
NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 2; Length 492;
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05-JUL-2004 (TrEWBLrel. 27, Last sequence update)
05-JUL-2004 (TrEWBLrel. 27, Last annotation update)
Nucleoside triphosphate diphosphohydrolase-8 (EC 3.6.1.5).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                              Director MGC Project;
Submitted (JUL-2004) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                   DA1 CD39 NTPASE; 1.
55507 MW; B789AB6DFC6A032B CRC64;
                                                                                                                                                                                     and mouse cDNA sequences.";
Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; Pred. No. 1.3e-94;
64; Mismatches 102;
                                                                                                                                                                                                                                                                            STRAIN-Singapore local strain; TISSUE=Embryo;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           55.5%; Score 1306.5; 57.0%; Pred. No. 1.3e
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                                                                                                                                                                                                             NVLLPADTKFGIVFDAGSSHTSLFVYQWPANKEKDTGVVSQALTCQIEGPGISSYTSDPT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gallus gallus (Chicken).
Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Archosauria, Aves, Neognathae, Galliformes, Phasianidae, Phasianinae,
     STRAIN-C57BL/6; TISSUE-Liver;
Bigonnesse F., Levesque S.A., Kukulski F., Lecka J., Robson S.C., Fernandes Mij.G., Sevigny J.;
Submitted (MiG-2003) to the EMBL/GenBank/DDBJ databases.
EMBL; AY364442; AA084519.1;
EMBL; AY364442; RA084519.1;
GO; GO:0016787; F:hydrolase activity; IEA.
InterPro; IRR000407; GDAL_CD39_NTPasse.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ectonucleoside triphosphate diphosphohydrolase 1 (EC 3.6.1.5) (WIPDAsel) (Etc.-ATP diphosphohydrolase) (ATPDase) (Lymphoid cellactivation antigen) (Ecto-apyrase) (CD39 antigen).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TISSUE=Oviduct;
MEDLINE=98298108; PubMed=9632655; DOI=10.1074/jbc.273.26.16043;
Nagy A.K., Knowles A.F., Nagami G.T.;
"Molecular cloning of the chicken oviduct ecto-ATP-
                                                                                                                                                     44.5%; Score 1046; DB 2; Length 497; 47.9%; Pred. No. 5.2e-74; ive 75; Mismatches 131; Indels 2:
                                                                                                                                497 AA; 54650 MW; 00DE822B6EEB1BDF CRC64;
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16-0CT-2001 (Rel. 40, Last sequence update)
05-JUL-2004 (Rel. 44, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          493 AA.
                                                                                                          PROSITE; PS01238; GDA1_CD39_NTPASE; 1.
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                                                                                                                                                                Local Similarity
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                                                                                                                      Hydrolase.
SEQUENCE
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093295;
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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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InterPro; IPR000407; GDA1_CD39_NTPase.
Pfam; PF01150; GDA1_CD39; 1.
PROSITE; PS01238; GDA1_CD39_NTPASE; 1.
Antigen; Calcium; Direct protein sequencing; Glycoprotein; Hydrolase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      7 LPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQKVNEIG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  95 ASLKPCLDKAMAVIPVEQQWQTPTYLGATAGMRLLREQNSTKAEQVFAEVSKAIREFPVD
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                                                                                                                                               Transmittoring and stomach. Purification and N-terminal sequence of the stomach ecto-apyrase.";

J. Biol. Chem. 272:23645-23652(1997)

J. Biol. Chem. 272:23645-23652(1997)

L. FUNCTION: In the nervous system, could hydrolyze ATP and other nucleotides to regulate purinergic neurotransmission. Could also be implicated in the prevention of platelet aggregation. Hydrolyzes ATP and ADP 42 H(2)O = AMP + 2 phosphate.

C. -- COFACTOR: Requires calcium and magnesium (By similarity).

--- SUBUNIT: Homodimer; disulfide-linked (Probable).

--- SUBCELLULAR LOCATION: Integral membrane protein (Potential).

C. --- PIM: N-glycosylated.

--- SIMILARITY: Belongs to the GDA1 / CD39 NTPase family.
                                                                                                                                                                                                                                                 Could also
                                                                                                        Lewis-Carl S., Kirley T.L., "Immunolocalization of the ecto-ArPage and ecto-apyrage in chicken
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (Potential)
(Potential)
(Potential)
                                                                TISSUE=Stomach;
MEDLINE=97442428; PubMed=9295305; DOI=10.1074/jbc.272.38.23645;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             16,
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Extracellular (Potential).
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I -> G (in Ref. 1;
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Biol. Chem. 273:16043-16049(1998).
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Matches 196, Conserv
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                                                                                                 241 ILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTS 300
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              301 YCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEE
                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
Gallus.
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45.7%; Pred. No. 3.8e-70;
ive 72; Mismatches 145; Indels
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01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-UNN-2003 (TrEMBLrel. 24, Last annotation update)
Ecto-APP-diphosphohydrolase (EC 3.6.1.5).
Gallus gallus (Chicken).
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Best Local Similarity 45.7%
Matches 196; Conservative
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301 YCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEE
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Soluble CD39; solCD39; human; apyrase activity; platelet activation; unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; preeclampsia; embolism; platelet-associated ischemic disorder; thrombotic disorder; reocclusion; coagulopathy; deep venous thrombosis; DVT; pulmonary embolism; PE; thrombos formation; occlusion; restenosis; andiogenesis; antianginal; cerebroprotective; antitoractiosclerotic; anticoagulant; cardiant; vasotropic; thrombolytic; inhibitor; interleukin 2; IL2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        New soluble CD39 polypeptides having apyrase activity, useful for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1. .24
/label= Leader_peptide
/note= "Derived from human interleukin 2 (hIL2)"
/note= "Derived from human interleukin 2
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/note= "Cleavage site of leader sequence"
                                                                                                                                                                                                                                                                                                                                            Human soluble CD39 fusion protein construct, pIL2LTriml.
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                   ADS17924
ABO84674
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                                                                                                                                                                                                                                                                                AAY70922 standard; protein; 464 AA
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98US-0107466P.
99US-0149010P.
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Maliszewski CR,
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13-AUG-1999;
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1 ATONKALPENVKYGIVLDAG......NLTNMIPAEQPLSTPLSHST 440
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Result Š. soluble CD39; ADP-induced platelet activation; platelet aggregation; unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; preeclampsia; embolism; platelet-associated ischaemic disorder; lung ischaemia; thrombolytic; cerebral ischaemia; thrombotic disorder; lung ischaemia; thrombotis; peripheral artery thrombosis; intracardiac thrombosis; venous thrombosis; peripheral artery thrombosis; coagulopathy; deep venous thrombosis; pripheral artery thrombosis; coagulopathy; deep venous thrombosis; DVT; peripheral artery itransient ischaemic attack; thrombus formation; occlusion; recclusion; stenosis; restenosis; antianginal; cardiant; cerebroprotective; antiarteriosclerotic; vasotropic; anticoagulant; coronary ischaemia; vascular occlusion; plL2Trim1 variant.

24. .25 26. .464 /note= "Soluble portion of CD39"

WO200023094-A2

Location/Qualifiers

Cleavage-site

Protein

sapiens.

Synthetic.

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The present sequence is the fusion protein construct, pILZLTriml. This construct comprises of the leader peptide from human interleukin 2 (hILZ) and soluble CD39 (solCD39) protein region, having apyrase activity. The two regions are joined by an intervening Ala residue. Soluble CD39 is constructed by removing the N- and C-terminal transmembrane domains. It constructed by removing the N- and C-terminal transmembrane domains. It cratains the capacity to metabolise APP and ADP at relevant concentrations of and the ability to block and reverse ADP-induced platelet activation and crecuitment, including platelet aggregation. Soluble CD3 polypeptides or excutiment, including platelet aggregation. Soluble CD3 polypeptides are useful for inhibiting angiogenesis. It is useful for the treatment of are useful for inhibiting angiogenesis. It is useful for the treatment of constant about a throwed and vascular occlusion, or injury, embolism, atherosclerosis, peripheral vascular occlusion, pulmonsy and cerebral artery thrombosis, intracardiac and venous thrombosis, coagulopathy, deep venous thrombosis (DVT), pulmonary companies than partial partery thrombosis (DVT), pulmonary companies of pramation or reformation, occlusion, reocclusion, stenosis or restenosis of blood vessels or stroke
inhibiting angiogenesis and treating unstable angina, myocardial infarction, stroke, coronary artery disease or injury.
                                                                                                Claim 6; Page 111-112; 122pp; English.
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                                                                    25 ATQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQ
                                                                                                                       SNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGG
                                                                                                                                                                               SNYPFDFÇGARIITGQEEGAYGMITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGG
                                                                                                                                                                                                                 ASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNE
                                                                                                                                                                                                                                 ILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPPQQFEIQGIGNYQQCHQSILELFNTS
                            Gaps
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  Length 464;
                         0; Indels
100.0%; Score 2352; DB 3;
100.0%; Pred. No. 2.7e-232;
tive 0; Mismatches 0;
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                               Conservative
                  Best Local Similarity
Matches 440; Conserv
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Protein encoded by Trim 1 construct.

17-AUG-2000 (first entry)

AAY70899,

AAY70899 standard; protein; 464 AA

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The present sequence is the protein encoded by Triml construct. pIL2Triml CC variant was constructed by removing the human IL2 residues from solCD39 creation construct. Fusion of 12 amino acids from the N.terminus of mature tusion construct. Fusion of 12 amino acids from the N.terminus of mature construct. Fusion of 12 amino acids from the N.terminus of mature construct. Fusion of 12 amino acids from the N.terminus of mature construct. Fusion of 12 amino of 12 amino of 12 amino of 12 amino of 12 amino of 13 amino of 13 amino of 13 amino of 13 amino of 13 amino of 13 amino of 13 amino of 13 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 14 amino of 
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Inhibiting platelet activation and recruitment, useful for treating a mammal suffering from unstable angina, myocardial infarction, stroke, coronary artery disease or injury, comprises administering soluble CD39 polypeptides.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      25 ATGNKALPENVKYGIVLDAGSSHTSLYIYKWBAEKENDTGVYHQVEECRVKGPGISKFVQ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 464;
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100.0%; Pred. No. 2.7e-232;
tive 0; Mismatches 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Marcus AJ;
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98US-0107466P.
99US-0149010P.
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(CORR ) CORNELL RES FOUND INC.
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06-NOV-1998;
13-AUG-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          13-0CT-1999;
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                                                                                                                                                                                                                                                                                                                                                                        Soluble CD39; solCD39; human; apyrase activity; platelet activation; unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; pripheral vascular occlusion; preclampsia; embolism; platelet-associated ischaemic disorder; thrombotic disorder; reocclusion; coagulopathy; deep venous thrombosis; DVT; pulmonary embolism; PB; thrombus formation; occlusion; stensosis; restenosis; anglogenesis; antianginal; cerebroprotective; antiarteriosclerotic; anticoagulant; cardiant; vasotropic; thrombolytic; inhibitor; interleukin 2; IL2.
                                                                                                   300
                                       204
                                                                               264
                                                                                                                     324
                                                                                                                                                             384
                                                                                                                                                                                          SNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGG
                                                                      ASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNE
                                                                                                                                        YCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEE
KVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSL
                                                           ASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNE
                                                                                                  ILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTS
                                                                                                               ILRDPCFHPGYKKVVNVVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTS
                                                                                                                                                           325 YCPYSQCAPNGIPLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEE
                                                                                                                                                                             IKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYML
                                                                                                                                                                                                                                                                                                                                                      Human soluble CD39 and IL2 N-terminus comprising fusion construct.
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    .15
    /label= Mature human interleukin_2
    /note= "N-terminal region"

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                                                                                                                                                                                                                                                                                                                                    (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens
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13-AUG-1999;
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The present sequence is a fusion construct, comprising the N-terminal amino acids of mature human interleukin2 (IL2) and soluble CD39 (solCD39) region, that has apyrase activity. This results in high levels of solCD39 cexpression and activity in the transfected cells. Soluble CD39 is constructed by removing the N- and C-terminal transmembrane domains. It creains the apparetty to metabolise ATP and ADP at relevant concentrations and the ability to block and reverse ADP-induced platelet activation and recruitment, including platelet aggregation. Soluble CD39 polypeptides creatistable angina, myocardial infarction, stroke, coronary artery disease or injury, atherosclerosis, peripheral vascular occlusion, preeclampsia, coronary and cerebral ischaemic disorders including lung, coronary and cerebral ischaemic dischaemic disorders including coronary, peripheral and cerebral artery thrombosis (intracardiac and venous thrombosis, coagulopathy, deep venous thrombosis (intracardiac and venous thrombosis (intracardiac and venous thrombosis (intracardiac and venous for preventing thrombus formation or reformation, occlusion, reocclusion, stenosis or restenosis of blood vessels or stroke
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New soluble CD39 polypeptides having apyrase activity, useful for inhibiting angiogenesis and treating unstable angina, myocardial infarction, stroke, coronary artery disease or injury.
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                                                                                                                                Claim 6a; Page 95-97; 122pp; English.
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Matches 439; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 454 AA;
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The present sequence is the protein enocoded by a fusion construct of sol(soluble) CD39 having apyrase activity. Fusion of 12 amino acids from the N-terminus of mature human II2 to the solCD39 coding region results in high levels of mature human II2 to the solCD39 coding region results in high levels of both expression and activity in the supernatants of transfected cells. This is used in the treatment of unstable angina, athorosclerosis, peripheral vascular occupary artery disease or injury, atherosclerosis, peripheral vascular occlusion, precelampsia, embolism, platelet-associated ischaemic disorder including lung ischaemia, coronary actery thrombosis, erreny thrombosis, thrombosis, intracardiac thrombosis, peripheral artery thrombosis, wencus thrombosis, intracardiac thrombosis, cosquiopathy, deep venous thrombosis (bryf), pulmonary embolism (PE), transient ischaemic attack. Soluble CD39 is also useful for preventing thrombus formation or reformation, occlusion, reocclusion, stenosis or
                            unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; preeclampsia; embolism; platelet-associated ischaemic disorder; lung ischaemia; thrombolytic; cerebral ischaemia; thrombotic disorder; coronary artery thrombosis; peripheral artery thrombosis; intracardiac thrombosis; venous thrombosis; peripheral artery thrombosis; coagulopathy; deep venous thrombosis; pripheral artery thrombosis; restaemic attack; thrombos formation; occlusion; reacclusion; stenosis; restaemic attack; thrombus formation; cerebroprotective; antiateriosclerotic; vasotropic; anticoagulant; coronary ischaemia; vascular occlusion.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Inhibiting platelet activation and recruitment, useful for treating a mammal suffering from unstable angina, myocardial infarction, stroke, coronary artery disease or injury, comprises administering soluble CD39
                Soluble CD39; ADP-induced platelet activation; platelet aggregation;
                                                                                                                                                                                                                                                                                                                                                                                                             "Human soluble CD39 protein"

    .15
/label= Mature human_interleukin_2
/note= "N-terminal region" ,

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Marcus AJ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       restenosis of blood vessels or stroke
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 6; Page 95-97; 118pp; English.
                                                                                                                                                                                                                                                                                                                Location/Qualifiers
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98US-0107466P.
99US-0149010P.
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(CORR ) CORNELL RES FOUND INC.
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06-NOV-1998;
13-AUG-1999;
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                                                                                                                                                                                                                                                             sapiens.
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                                                                                                                                                                                                                                                                               Synthetic.
                                                                                                                                                                                                                                                                                                                  Key
Protein
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soluble CD39; solCD39; human; apyrase activity; platelet activation; unstable angina; myocardial infarction; stroke; coronary artery disease; atheroselerosis; peripheral vascular occlusion; preclampsia; embolism; platelet-associated ischaemic disorder; thrombotic disorder; reocclusion; coagulopathy, deep venous thrombosis; DVT; pulmonary embolism; PE; attrombus formation; occlusion; stenosis; restenosis; anglogenesis; antiantiangial; carebroprotective; antiarteriosclerotic; anticoagulant; cardiant; vasotropic; thrombolytic; inhibitor; interleukin 2; IL2; Ig; immunoglobulin kappa.
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    21. .24
    /note= "Residues derived from human interleukin 2 (IL2)"

                                                                                                                                                                                                             YCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEE
                                                                                                                                                                                                                                                                361 IKTSYAGVKEKYLSEYCPSGTYILSLILQGYHFTADSWEHIHFIGKIQGSDAGWTLGYML
                                                                                                                                                                                                                                                                              181 ASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNE
                                                                                                                    195 ASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNE
                                                                                                                                                          241 ILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTS
                                                                                                                                                                                   255 ILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTS
KVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSL
                                                   SNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGG
                                                                                                                                                                                                                              1. .20
/label= Leader peptide
/note= "Derived from human immunoglobulin Ig kappa"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human soluble CD39 fusion protein construct, IgkappaLsolCD39.
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.e= "Cleavage site of leader sequence"
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/note= "Human soluble CD39 protein"
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                                                                                                                                                                                                                                                                                                                                                                                                                  AAY70925 standard; protein; 463 AA
                                                                                                                                                                                                                                                                                                                      421 NLTNMIPAEQPLSTPLSHST 440
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98US-0107466P.
99US-0149010P.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
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06-NOV-1998;
13-AUG-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           sapiens
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Score 2349; DB 3; Length 454; Pred. No. 5.4e-232; 1; Mismatches 0; Indels 0

99.06

Conservative

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Local

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Query Match

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1 ATONKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQ

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AAY70902 standard; protein; 463

AAY70902;

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This construct comprises of the leader peptide from human immunoglobulin of kappa, linked to the soluble CD39 (solCD39) protein region by few residues derived from human interleukin 2 (h1L2). SolCD39 has apyrase activity and is constructed by removing the N- and C-terminal relevant concentrations and the ability to metabolise ATP and ADP in the concentrations and the ability to block and reverse ADP- induced platelet activation and recruitment, including platelet aggregation. Soluble CD39 polypeptides are useful for inhibiting angregation. Soluble CD39 polypeptides are useful for inhibiting myocardial infarction, coronary artery disease or injury, embolism, atherosclerosis, peripheral vascular occlusion, preeclampsia, platelet associated ischaemic disorders including lung, coronary and cerebral schaemic disorders including coronary, peripheral and cerebral artery thrombosis, intracardiac and venous thrombosis, intracardiac and venous thrombosis, intracardiac and venous thrombosis, cranslent ischaemic attack. Soluble CD39 is also useful for preventing thrombus formation or reformation, occlusion, reocclusion, stenosis or restenosis of blood vessels or stroke
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                present sequence is the fusion protein construct, IgkappaLsolCD39
                                                                                                                                                                                                                                                                                                             New soluble CD39 polypeptides having apyrase activity, useful for inhibiting angiogenesis and treating unstable angina, myocardial infarction, stroke, coronary artery disease or injury.
                                                                                                                   Gimpel SD;
                                                                                                             Price VL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim 6; Page 116-118; 122pp; English
                                                                                                        Maliszewski CR, Gayle RB,
(IMMV ) IMMUNEX CORP.
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61 KVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSL 120 180 240 203 83 24 STONKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQ 1 ATQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQ SNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGG SNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGG ASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNE Gaps ö 99.9%; Score 2349; DB 3; Length 463; 99.8%; Pred. No. 5.6e-232; ive 1; Mismatches 0; Indels (Conservative Local Similarity 439; Query Match Best Local Si Matches 439; 144 181 유 ò ద Q Š

ASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNE

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241

ILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTS

NLTNMIPAEQPLSTPLSHST 440 463 NLTNMIPAEQPLSTPLSHST 421

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unstable angina; myocardial infarction; stroke, coronary artery disease, atherosclerosis; peripheral vascular occlusion; preeclampsia; embolism; platelet-associated ischaemic disorder; lung ischaemia; thrombolytic; cerebral ischaemia; thrombosis; thrombosis; thrombosis; thrombosis; intracardiac thrombosis; venous thrombosis; peripheral artery thrombosis; cosqulopathy; deep venous thrombosis; peripheral artery thrombosis; cosqulopathy; deep venous thrombosis; peripheral artery thrombosis; ransient ischaemic attack; thrombos formation; occlusion; reocclusion; stenosis; restenosis; antianginal; cardiant; cerebroprotective, antiarteriosclerotic; vasotropic; anticoagulant; coronary ischaemia; vascular occlusion; IgkappalsolCD39 construct.
                                                                                                                                                                                                                                                      Soluble CD39; ADP-induced platelet activation; platelet aggregation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .463
:e= "Soluble portion of CD39"
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/note= "Igkappa leader sequence"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .32
te= "Derived from solCD39"
                                                                                                                                                                                                 Protein encoded by IgkappaLsolCD39 construct.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Derived from IL-2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Location/Qualifiers
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99US-0149010P.
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Gayle RB, Marcus AJ; Maliszewski CR,

(IMMV) IMMUNEX CORP. (CORR) CORNELL RES FOUND INC.

13-AUG-1999;

WPI; 2000-339518/29.

Inhibiting platelet activation and recruitment, useful for treating a mammal suffering from unstable angina, myocardial infarction, stroke, coronary artery disease or injury, comprises administering soluble CD39 polypeptides.

Claim 6; Page 116-118; 118pp; English.

The present sequence is the protein encoded by IgkappaLsolCD39 construct. This is used for transient expression of soluble (sol)CD39 in recombinant cells for determining enzymatic activity and platelet inhibitory activity for each protein product. SolCD3 is used in the treatment of unstable angina, myocardial infarction, stroke, coronary artery disease or injury, atherosclerosis, peripheral vascular occlusion, preeclampsia, embolism, platelet-associated ischaemic disorder including lung ischaemia, coronary artery thrombosis, cerebral artery thrombosis, intracardiac thrombosis, peripheral artery thrombosis, intracardiac thrombosis, peripheral artery thrombosis, venous thrombosis, thrombosis, coopalopathy, deep venous thrombosis (DVT), pulmonary embolism (PB), transient ischaemic attack. Soluble CD39 is also useful for preventing thrombus formation or reformation, occlusion, reocclusion, stenosis or restenosis of blood vessels or stroke SD;

Gimpel

Price VL,

RB,

Gayle

98US-0104585P. 98US-0107466P. 99US-0149010P.

99WO-US022955

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New soluble CD39 polypeptides having apyrase activity, useful for inhibiting angiogenesis and treating unstable angina, myocardial infarction, etroke, coronary artery disease or injury.
                                                                                       (IMMV ) IMMUNEX CORP
                                                                                                                                  WPI; 2000-339644/29.
                                                                                                             Maliszewski CR,
                                          16-OCT-1998;
06-NOV-1998;
                     13-OCT-1999;
                                                                 13-AUG-1999;
27-APR-2000
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                                                                                                                                                                                SNYPPDFQGARIITGQEBGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGG 203
                                                                                                                                                                                                                                                             ILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTS 300
                                                                                                                                                                                                                                                                                                        YCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEE 360
                                                                                                                                                                                                                                                                                                                                                     IKTSYAGVKEKYLSEYCPSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYML 420
                                                                                                                                                                                                                                                                                                                                                                  IKTSYAGVKEKYLSEYCFSGTYILSLLLOGYHFTADSWEHIHFIGKIQGSDAGWTLGYML 443
                                                                                                                          KVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSL 120
                                                                                                                                     84 KVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSL 143
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                                                                                                                                                                     SNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGG
                                                                                           STONKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQ
                                                                              1 ATQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQ
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                                 Length 463;
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/label= Leader_peptide
/note= "Derived from human interleukin 2
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te= "Cleavage site of leader sequence"
                                                       0; Indels
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/note= "Human soluble CD39 protein"
                                  99.9%; Score 2349; DB 3; 99.8%; Pred. No. 5.6e-232;
                                                       1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Location/Qualifiers
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                                                          Matches 439; Conservative
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                                              Similarity
              Sequence 463 AA;
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Synthetic.
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The present sequence is the fusion protein construct, pIL2LTrim4. This construct comprises of the leader peptide from human interleukin 2 (hIL2) and soluble (D139) (solCtein region, having apprase activity.

Coluble (D139) is constructed by removing the N- and C-terminal constructed by removing the N- and C-terminal constructed by removing the N- and C-terminal constructed by removing the N- and C-terminal concentrations and the ability to block and reverse ADP- induced platelet activation and recruitment, including platelet agregation. Soluble CD39 polypeptides are useful for inhibiting angiogenesis. It is useful for the treatment of unstable angina, stroke, myocardial infarction, coronary artery disease or injury, embolism, atherosclerosis, peripheral vascular occlusion, preeclampsia, platelet- is cassociated isohemic disorders including lung, coronary and cerebral cerebral artery thrombosis infracardiac and venous thrombosis, coronary, peripheral and cerebral artery thrombosis infracardiac and venous thrombosis, coronary embolism (PB) and transient ischaemic attack. Soluble CD39 is also useful for preventing thrombus formation or reformation, occlusion, reocclusion, stenosis or restenosis or stroke
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99.8%; Pred. No. 5.7e-232;
iive 1; Mismatches 0;
Claim 6; Page 114-116; 122pp; English.
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Best Local Similarity 99.81
Matches 439; Conservative
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reformation, occlusion, reocclusion, stenosis or restenosis of blood
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                                                                                                                                                                                                Soluble CD39; ADP-induced platelet activation; platelet aggregation; unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; preeclampsla; embolism; platelet-associated ischaemic disorder; lung ischaemia; thrombolytic; cerebral ischaemia; thrombolic disorder; coronary artery thrombosis; cerebral artery thrombosis; intracardiac thrombosis; venous thrombosis;
                                                                                                                                                                                                                                                                                peripheral drtery thrombosis; coagulopathy; deep venous thrombosis; DVT; PE; pulmonary embolism; transient ischaemic attack; thrombus formation; occlusion; recordusion; recordosis; antianginal; cardiant; cerebroprotective; antiarteriosclerotic; vasotropic; anticoagulant; coronary isdhaemia; vascular occlusion; pIL2Trim4 variant.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Inhibiting platelet activation and recruitment, useful for treating a mammal suffering from unstable angina, myocardial infarction, stroke, coronary artery disease or injury, comprises administering soluble CD39 polypeptides.
                                                                                                                                                                                                                                                                                                                                                                                                                                                /note= "Soluble portion of CD39"
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                                                                                                                                                                          Protein encoded by Trim 4 construct.
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                                                                                          AAY70901 standard; protein; 473 AA
NLTNMIPAEQPLSTPLSHST 440
               454 NLTNMIPAEQPLSTPLSHST
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(CORR ) CORNELL RES FOUND INC.
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98US-0107466P.
99US-0149010P.
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                                                                                                                                                (first entry)
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06-NOV-1998;
13-AUG-1999;
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                                                                                          Length 473;
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/note= "Cleavage site of leader sequence"
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/note= "Human soluble CD39 protein"
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                                                                                     Score 2349; DB 3;
Pred. No. 5.7e-232;
1; Mismatches 0;

    .24
    /label= Leader_peptide
    /note= "Derived from hu

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                                                                                        99.9%;
99.8%;
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                                                                           Query Match
Best Local Similarity 99.8
Matches 439; Conservative
vessels or stroke
                                          Sequence 473 AA;
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AAY70900;
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                                                                                                       RESULT 10
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                                                       셤
                                                                                                                                                                                                                                                                                                                                              The present sequence is the fusion protein construct, pIL2LTrim3. This construct comprises of the leader peptide from human interleukin 2 (hIL2) and soluble CD39 (solD039) protein region, having apprase activity.
Soluble CD39 is constructed by removing the N- and C-terminal
transmembrane domains. It retains the capacity to metabolise ATP and ADP at relevant broncentrations and the ability to block and reverse ADP are relevant broncentration and recruitment, including platelet aggregation. Soluble CD39 polypeptides are useful for inhibiting angoradial inflarction, coronary artery disease or injury, embolism, atherosclerosis, peripheral vascular occlusion, precelampsia, platelet associated ischaemic disorders including lung, coronary and cerebral associated ischaemic disorders including lung, coronary and cerebral cerebral artery thrombosis, intracardiac and venous thrombosis, intracardiac and venous thrombosis, coagulopathy, deep venous thrombosis (DVT), pulmonary embolism (PS) and trombus formation or reformation, reocclusion, stenosis or transment seriors of blood vessels or stroke
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      YCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQFWEE 360
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       95 KVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEBLADRVLDVVERSL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNE
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                                                                                                                                                                                                                                                                      inhibiting anglogenesis and treating unstable angina, myocardial infarction, stroke, coronary artery disease or injury.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ;
0
                                                                                                                                                                                                                                                          soluble CD39 polypeptides having apyrase activity, useful
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           99.9%; Score 2349; DB 3; Length 474; 99.8%; Pred. No. 5.8e-232; ive 1; Mismatches 0; Indels (
                                                                                                                                                                                           Gimpel SD;
                                                                                                                                                                                                                                                                                                                        Claim 6; Page 113-114; 122pp; English.
                                                                                                                                                                                           Price VL,
                                                                                            98US-0104585P.
                                                                                                          98US-0107466P.
                                                              99WO-US022955.
                                                                                                                                                                                           Gayle RB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Best Local Similarity 99.8 Matches 439; Conservative
                                                                                                                                                           (IMMV ) IMMUNEX CORP.
                                                                                                                                                                                                                           WPI; 2000-339644/29.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 474 AA;
                                                                                                                                                                                           Maliszewski CR,
WO200023459-A1
                                                              13-OCT-1999;
                                                                                                             06-NOV-1998;
                                                                                              16-OCT-1998;
                                                                                                                             13-AUG-1999;
                              27-APR-2000
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The present sequence is the protein encoded by Trim3 construct. pIL2Trim3 variant was constructed by removing the human IL2 residues from solCD39 fusion construct. Fusion of 12 amino acids from the N-terminus of mature human IL2 to the solCD39 coding region results in high levels of both expression and activity in the supernatants of transfected cells. SolCD39 is used in the treatment of unstable angina, myocardial infarction, stroke, coronary artery disease or injury, ablatelet-associated ischaemic disorder including lung ischaemia, coronary ischaemia and cerebral schaemia, a thrombotic disorder including coronary artery thrombotic disorder including coronary artery thrombosis, intracardiac thrombosis, peripheral artery thrombosis, intracardiac thrombosis, peripheral artery thrombosis, intracardiac thrombosis, peripheral artery thrombosis, intracardiac thrombosis, peripheral artery thrombosis, intracardiac thrombosis, peripheral artery thrombosis, thrombosis, coagulopathy, deep venous
395 IKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYML 454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Soluble CD39; ADP-induced platelet activation; platelet aggregation; unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; precelampsia; embolism; platelet-associated ischaemic disorder; lung ischaemia; thrombolytic; cerebral ischaemia; thrombotic disorder; lung ischaemia; thrombolytic; cerebral artery thrombosis; intracardiac thrombosis; venous thrombosis; peripheral artery thrombosis; coaquiopathy; deep venous thrombosis; peripheral artery thrombosis; caquiopathy; deep venous thrombosis; bUT; PE; pulmonary embolism; transient ischaemic attack; thrombos formation; cocclusion; secolusion; stenosis; restenosis; antianginal; cardiant; cerebroprotective; antiarteriosclerotic; vasotropic; anticoaquiant; coronary ischaemia; vascular occlusion; pll2Trim3 variant.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Inhibiting platelet activation and recruitment, useful for treating a mammal suffering from unstable angina, myocardial infarction, stroke, coronary artery disease or injury, comprises administering soluble CD39 polypeptides.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               36. .474
/note= "Soluble portion of CD39"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Protein encoded by Trim 3 construct.
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                                                                                                                                                                                                                                                                                                                                                                                        AAY70900 standard; protein; 474
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(CORR ) CORNELL RES FOUND INC.
                                                                                                                                   455 NLTNMIPAEQPLSTPLSHST
                                                                                                421 NLTNMIPAEOPLSTPLSHST
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06-NOV-1998;
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Gimpel SD

Price VL,

Gayle RB,

Maliszewski CR,

WPI; 2000-339644/29.

(IMMV) IMMUNEX CORP.

98US-0104585P. 98US-0107466P. 99US-0149010P.

06-NOV-1998; 13-AUG-1999; 16-OCT-1998;

99WO-US022955

13-OCT-1999;

27-APR-2000

WO200023459-A1.

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                                                                                                                                                                                                                                   KVNEIGIYLTDCMERAREVIPRSOHQETPVYLGATAGMRLLRMESEELADRVLDVVERSL 120
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thrombosis (DVT), pulmonary embolism (PB), transient ischaemic attack. Soluble CD39 is also useful for preventing thrombus formation or reformation, occlusion, reocclusion, stenosis or restenosis of blood
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/note= "Human CD39-L4 protein N-terminal end"
                                                                                                                 Length 474;

    20. .21
    /note= "Cleavage site of leader sequence"

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                                                                                                                Score 2349; DB 3;
Pred. No. 5.8e-232;
1; Mismatches 0;
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                                                                                                                99.94;
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                                                                                                                                             Conservative
                                                                                                                           Best Local Similarity
Matches 439; Conserv
                                                         vessels or stroke
                                                                                     Sequence 474 AA;
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The present sequence is a fusion protein construct CD39-L4-1, comprising the human CD39-L4 N-terminal region and soluble CD39 protein. CD39-L4 is a secreted apyrase, belonging to the CD39 family. Soluble CD39 is constructed by removing the N- and C-terminal transmembrane domains. It retains the capacity to metabolise ATP and ADP at relevant concentrations and the ability to block and reverse ADP-induced platelet activation and recruitment, including platelet aggregation. Soluble CD39 polypeptides crecruitment, including platelet aggregation. Soluble CD39 polypeptides are useful for inhibiting angiogenesis. It is useful for the treatment of unstable angina, myocardial infarction, stroke, coronary attery disease.

CC unstable angina, myocardial infarction accounts are consisted including coronary, coronary and cerebral ischaemia, thrombosis intracardiac and venous thrombosis, intracardiac and venous thrombosis, coagulopathy, deep venous thrombosis (DVT), pulmonary embolism (PB) and transient ischaemia entack. Soluble CD39 is also useful for preventing thrombus formation or reformation, occlusion, reocclusion, teocclusion, stenosis or restenosis of blood vessels or stroke
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61 KVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSL
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                                                                                                                                                                                                                                                                                                                                       New soluble CD39 polypeptides having apyrase activity, useful for inhibiting angiogenesis and treating unstable angina, myocardial
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                                                                                                                                                                                                                                                                                                                                                                                 infarction, stroke, coronary artery disease or injury
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99.8%; Pred. No. 5.8e-232;
ive 1; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                        Claim 6; Page 89-91; 122pp; English.
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hes 439; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 476 AA;
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Soluble CD39; solCD39; human; apyrase activity; platelet activation; unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclarosis; peripheral vascular occlusion; preeclampsia; embolism; platelet-associated ischaemic disorder; thrombotic disorder; reocclusion; coagulopathy; deep venous thrombosis, DVT; pulmonary embolism; PE; thrombus formation; occlusion; restenosis; angiogenesis; antianginal; cerebroprotective; antiateriosclerotic; anticoagulant; cardiant; vasotropic; thrombolytic; inhibitor; interleukin 2; IL2.;
platelet-associated ischaemic disorder including lung ischaemia, coronary ischaemia and cerebral ischaemia, thrombotic disorder including coronary artery thrombosis, cerebral artery thrombosis, intracardiac thrombosis, peripheral artery thrombosis, venous thrombosis, thrombosis, coagulopathy, deep venous thrombosis (DVT), pulmonary embolism (PB), translent ischaemic attack. Soluble CD19 is also useful for preventing thrombus formation or reformation, occlusion, reocclusion, stenosis or restenosis of blood vessels or stroke
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSL 120
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     361 IKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYML
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 ATQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQ
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                                                                                                                                                                                                                                                                Score 2349; DB 3;
Pred. No. 5.8e-232;
1; Mismatches 0;
                                                                                                                                                                                                                                                                                                             1; Mismatches
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/label= Leader_peptide
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    440
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                                                                                                                                                                                                                                                                     99.9%;
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                                                                                                                                                                                                                                                                                                                  439; Conservative
                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
                                                                                                                                                                                                                            Sequence 476 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens.
Synthetic.
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Matches
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                                                                                                                                                                                                                                                                                                                                                                                                     Soluble CD39; ADP-induced platelet activation; platelet aggregation; unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; preclampsia; embolism; platelet-associated ischaemic disorder; lung ischaemia; thrombolytic; cerebral ischaemia; thrombotic disorder; lung ischaemia; thrombosis; peripheral artery thrombosis; intracardiac thrombosis; nons thrombosis; peripheral artery thrombosis; cogquiopathy; deep venous thrombosis; PE; pulmonary embolism; transient ischaemic attack; thrombus formation; cocclusion; teocolusion; stenosis; restenosis; antianginal; cardiant; cerebroprotective; antiarteriosclerotic; vasotropic; anticoagulant; coronary ischaemia; vascular occlusion;
                     397 IKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYML 456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Inhibiting platelet activation and recruitment, useful for treating a mammal suffering from unstable angina, myocardial infarction, stroke, coronary artery disease or injury, comprises administering soluble CD39 polypeptides.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20. .21
38. .476
/note= "Soluble portion of CD39"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     'note= "Derived from CD39-L4"
                                                                                                                                                                                                                                                                                                                                                                        Protein encoded by CD39-L4-1 construct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Marcus AJ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 6; Page 89-91; 118pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                      AAY70888 standard; protein; 476 AA
                                                                         440
                                                                                                                 NLTNMIPAEQPLSTPLSHST 476
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(CORR ) CORNELL RES FOUND INC.
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98US-0107466P.
99US-0149010P.
                                                                         NLTNMIPAEOPLSTPLSHST
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                                                                                                                                                                                                                                                                                                                           (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 2000-330518/29.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WO200023094-A2.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                06-NOV-1998;
13-AUG-1999;
                                                                                                                                                                                                                                                                                                                              17-AUG-2000
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Synthetic.

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Soluble CD39; ADP-induced platelet activation; platelet aggregation; unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; preeclampsia; embolism; platelet-associated ischaemic disorder; lung ischaemia; thrombolytic; cerebral ischaemia; thrombotic disorder; coronary artery thrombosis; cerebral artery thrombosis; intracardiac thrombosis; venous thrombosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      peripheral artery thrombosis; coagulopathy; deep venous thrombosis; DVT; PE; pulmonary embolism; transient ischaemic attack; thrombus formation; occlusion; reocclusion; stenosis; restenosis; antianginal; cardiant; cerebroprotective; antiarteriosclerotic; vasotropic; anticoagulant;
                                        279 ILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPPQQFEIQGIGNYQQCHQSILBLFFNTS
                                                                                                                            339 YCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEE
                                                                                                                                                                                    361 IKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYML
                                                                                                    301 YCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Inhibiting platelet activation and recruitment, useful for treating a mammal suffering from unstable angina, myocardial infarction, stroke,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              note= "huIL2 leader sequence"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          40. .478
/note= "SolCD39 protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            coronary ischaemia; vascular occlusion.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          25. .36
/note= "Mature human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                               AAY70891 standard; protein; 478 AA
                                                                                                                                                                                                                                                                       440
                                                                                                                                                                                                                                                                                             459 NLTNMIPAEQPLSTPLSHST 478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Protein encoded by pIL2Lsol CD39.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note= "Linker"
                                                                                                                                                                                                                                                                     421 NLTNMIPAEQPLSTPLSHST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (CORR ) CORNELL RES FOUND INC.
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99US-0149010P.
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N-PSDB; AAD00202.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WO200023094-A2
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Synthetic.
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06-NOV-1998;
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                       241
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The present sequence is a fusion construct pIL2LsolCD39, comprising the leader peptide of human interleukin 2 (hIL2), 12 amino acids from the mature N-terminus of hIL2 and soluble CD39 (solCD39) coding region, having apyrase activity. This produces high levels of solCD39 expression and activity in the transfected cells. Soluble CD39 is constructed by removing the N- and C-terminal transmembrane domains. It retains the capacity to metabolise ATP and ADP at relevant concentrations and the recruitment, including platelet aggregation. Soluble CD39 polypeptides are useful for inhibiting angiogenesis. It is useful for the treatment of unstable angina, myocardial infarction, stroke, coronary artery disease or injury, atherosclerosis, peripheral vascular occlusion, precclampsia, embolsem, platelet-associated ischaemic disorders including lung, coronary, coronary, and gerebral ischaemia, thrombotic disorders including coronary,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      peripheral and cerebral attery thrombosis, intracardiac and venous thrombosis, coagulopathy, deep venous thrombosis (DVT), pulmonary embolism (PE) and transient ischaemic attack. Soluble CD39 is also useful for preventing thrombus formation or reformation, occlusion, reocclusion,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           KVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSL 120
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     New soluble CD39 polypeptides having apyrase activity, useful for inhibiting angiogenesis and treating unstable angina, myocardial infarction, stroke, coronary artery disease or injury.
                                      /label= Mature human_interleukin_2
/note= "Derived from N-terminal end of human IL2"
'note= "Derived from human interleukin 2 (hIL2)"
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Pred. No. 5.8e-232;
1; Mismatches 0; Indels
                                                                             37. .39
/note= "Linker"
40. .478
/note= "Human Boluble CD39 protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          stenosis or restenosis of blood vessels or stroke
                                                                                                                                                                                                                                                                                                                                                                                                                                  Gayle RB, Price VL, Gimpel SD;
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Best Local Similarity 99.8
Matches 439; Conservative
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                   Protein
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The present sequence is protein encoded by the coding region of prize pilzsolCD39, a fusion construct encoding sol(soluble)CD39 having apyrase of pilzsolCD39, a fusion construct encoding sol(soluble)CD39 having apyrase activity. Fusion of 12 amino acids from the N-terminus of mature human IL2 to the solCD39 coding region results in high levels of both expression and activity in the supernatants of transfected cells. This is coronary arthry disease or injury, atherosclerosis, peripheral vascular coclusion, preeclampsia, embolism, platelet-associated ischaemic disorder including lung ischaemia, coronary ischaemia and certebral ischaemia, a thrombosis, intracardiac thrombosis, peripheral artery thrombosis, intracardiac thrombosis, peripheral artery thrombosis, intracardiac thrombosis, peripheral artery thrombosis, intracardiac thrombosis, peripheral artery thrombosis, intracardiac thrombosis, peripheral artery thrombosis, corollopathy, deep venous thrombosis, venous plumonary embolism (PE), transient ischaemic attack. Soluble CD39 is also useful for preventing thrombus formation or reformation, occlusion, creclusion, stenosis or restenosis of blood vessels or stroke
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               39 STONKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECKVKGFGISKFVQ 98
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coronary artery disease or injury, comprises administering soluble CD39 polypeptides.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          339 YCPYSÇCAFNGIFLPPLQGDFGAFSAFYFVMKFINLISEKVSQEKVTEMMKKFCAQPWEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 ATONKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYML
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                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 2349; DB 3; Length 478; Pred. No. 5.8e-232; 1; Mismatches 0; Indels (
                                                                         Disclosure; Page 99-101; 118pp; English
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                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity 99.8%;
Matches 439; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 478 AA;
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The present sequence is the active fragment of human CD39. CD39 or its active fragment may be administered to treat or prevent stroke in a subject susceptible to intracranial haemorrhaging or an ischaemic disorder. The CD39 pollypeptide inhibits ADP-mediated platelet aggregation or leukocyte accumulation and/or ATP by increasing ADP catabolism to the subject. CD39 or its active fragment is useful for treating or preventing stroke, thrombotic disorders and ischaemic disorders such as peripheral vascular disorder, pulmonary embolus, venous thrombosis, myocardial infarction, transient ischaemic attack, unstable angina, reversible ischaemic neurological deficit and sickle cell anaemia. It is also useful for treating or preventing a stroke disorder in a subject undergoing heart surgery, lung surgery, spinal surgery, brain surgery, vascular surgery, abdominal surgery, or organ transplantation surgery
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       122 NYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYFTNNQETFGALDLGGA
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                                                                                                                                                                                                                                            Treating stroke in a subject susceptible to intracranial hemorrhaging an ischemic disorder, involves administering a CD39 polypeptide which inhibits ADP-mediated platelet aggregation or leukocyte accumulation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TONKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CPYSQCAFNGI FLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEBI
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                                                                                                                                                                                                                                                                                                               Claim 3; Page 14; 118pp; English.
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                                                                                         11-AUG-2000; 2000WO-US022060.
                                                                                                                       99US-00374586.
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                                                                                                                                                                                                                      WPI; 2001-202805/20.
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Best Local Similarity
Matches 439; Conserv
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                            WO200111949-A1
                                                                                                                       13-AUG-1999;
                                                           22-FEB-2001
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Search completed: March 7, 2005, 13:13:08 Job time: 72.9896 secs

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March 7, 2005, 13:23:03; Search time 51.6189 Seconds (without alignments) 2804.781 Million cell updates/sec
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

Description	27,	Sequence 6, Appli	Sequence 30, Appr Sequence 29, Appl	Sequence 28, Appl	Sequence 3, Appli	Sequence 8, Appli	Sequence 2, Appli	Sequence 26, Appl	Sequence 38, Appl	Sequence 2, Appli	Sequence 1, Appli	Sequence 1, Appli
SUMMARIES	US-09-835-147-27	US-09-835-147-6	US-09-835-147-30 US-09-835-147-29	US-09-835-147-28	US-09-835-147-3	US-09-835-147-8	US-09-374-586-2	US-09-835-147-26		US-09-835-147-2	US-09-374-586-1	US-09-781-796B-1
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Score	2352	2349	2349		2349	2349	2348	2348	2348	2348	2348	2348
Result No.	H	7 9 r	n 47	ß	9	7	80	6	10	11	12	13

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Gaps

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; FEATURE: , OTHER INFORMATION: Description of Artificial Sequence: Fusion ; OTHER INFORMATION: construct of human CD39 US-09-835-147-27

Query Match 100.0%; Score 2352; DB 9; Length 464; Best Local Similarity 100.0%; Pred. No. 4.8e-210; Matches 440; Conservative 0; Mismatches 0; Indels 0

34 906.5 38.5 488 14 US-10-173-700-496 Sequence 496, App 36 906.5 38.5 458 14 US-10-173-700-496 Sequence 496, App 37 906.5 38.5 458 14 US-10-174-572-496 Sequence 496, App 38 906.5 38.5 458 14 US-10-174-582-496 Sequence 496, App 40 906.5 38.5 458 14 US-10-174-582-496 Sequence 496, App 40 906.5 38.5 458 14 US-10-174-582-496 Sequence 496, App 41 906.5 38.5 458 14 US-10-175-749-496 Sequence 496, App 42 906.5 38.5 458 14 US-10-175-749-496 Sequence 496, App 42 906.5 38.5 458 14 US-10-175-749-496 Sequence 496, App 42 906.5 38.5 458 14 US-10-176-749-496 Sequence 496, App 42 906.5 38.5 458 14 US-10-176-749-496 Sequence 496, App 42 906.5 38.5 458 14 US-10-176-749-496 Sequence 496, App 42 906.5 38.5 458 14 US-10-176-747-496 Sequence 496, App 42 906.5 38.5 458 14 US-10-176-747-496 Sequence 496, App 42 906.5 38.5 458 14 US-10-176-747-496 Sequence 496, App 42 906.5 38.5 458 14 US-10-176-747-496 Sequence 496, App 42 906.5 38.5 458 14 US-10-176-747-496 Sequence 496, App 42 906.5 38.5 458 14 US-10-176-747-496 Sequence 496, App 42 906.5 38.5 458 14 US-10-176-747-496 Sequence 496, App 42 906.5 38.5 458 14 US-10-176-747-496 Sequence 496, App 42 906.5 38.5 458 14 US-10-176-747-496 Sequence 496, App 42 906.5 38.5 458 14 US-10-176-747-496 Sequence 496, App 42 906.5 38.5 458 14 US-10-176-747-496 Sequence 496, App 42 906.5 38.5 458 14 US-10-176-747-496 Sequence 496, App 42 906.5 38.5 458 14 US-10-176-747-496 Sequence 496, App 42 906.5 38.5 458 14 US-10-176-747-496 Sequence 496, App 42 906.5 38.5 458 14 US-10-176-747-496 Sequence 496, App 42 906.5 38.5 458 14 US-10-176-747-496 Sequence 496, App 42 906.5 38.5 458 14 US-10-176-747-496 Sequence 496, App 42 906.5 38.5 458 14 US-10-176-747-496 Sequence 496, App 42 906.5 900-94-13 PRIOR PILING DATE: 1998-10-06 PRIOR PILING DATE: 1998-10-03 PRIOR PILING DATE: 1998-10-13 SOFFWARR: Patentin Ver. 2.0

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APPLICANT: Gayle III, Richard B.
APPLICANT: Price, Virginia L.
APPLICANT: Frice, Virginia L.
APPLICANT: Gimpel, Steven D.
TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE REFERENCE: 2979-US
FILE REFERENCE: 2979-US
FILE REPERENCE: 2979-US
FILE REPERENCE: 2979-US
FRICH FILING DATE: 1098-10-16
FRICH APPLICATION NUMBER: US 60/107,466
FRICH APPLICATION NUMBER: US 60/107,466
FRICH FILING DATE: 1998-11-06
FRICH FILING DATE: 1999-08-13
FRICH FILING DATE: 1999-08-13
FRICH APPLICATION NUMBER: US 60/149,010
FRICH APPLICATION NUMBER: US 60/149,010
FRICH APPLICATION NUMBER: PQT/US99/22955
FRICH APPLICATION NUMBER: PQT/US99/22955
FRICH APPLICATION NUMBER: PQT/US99/10-13
FRICH APPLICATION NUMBER: PQT/US99/10-13
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Patent No. US20020002277A1
GENERAL INFORMATION:
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Best Local Simi
Matches 439;
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APPLICANT: Maligeseki, Charles R.
APPLICANT: Maligeseki, Charles R.
APPLICANT: Maligeseki, Charles B.
APPLICANT: Gingel, Stewn D.
TILE REPERENCE: 2879-US
TILE REPERENCE: 2879-US
CURRENT APPLICATION NUMBER: US/09/835,147
CURRENT FILING DATE: 2001-04.3
PRIOR PELICATION NUMBER: US 60/104,585
PRIOR PELICATION NUMBER: US 60/107,466
PRIOR FILING DATE: 1998-10-16
PRIOR FILING DATE: 1998-11-06
PRIOR FILING DATE: 1998-11-06
PRIOR FILING DATE: 1999-10-13
PRIOR FILING DATE: 1999-10-13
PRIOR FILING DATE: 1999-10-13
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Best Local Similarity 99.8%; Pred. No. 9.1e-210;
Matches 439; Conservative 1; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 30, Application US/09835147; Patent No. US20020002277A1; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                               NLTNMIPAEQPLSTPLSHST 440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: PRT ORGANISM: Artificial Sequence
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Sequence 28, Application US/09835147

Sequence 28, Application US/09835147

GENERAL INFORMATION:

APPLICANT: Maliszewski, Charles R.

APPLICANT: Gayle III, Richard B.

APPLICANT: Gimpel, Steven D.

TITLE OF INVENTION: Inhabitors of Platelet Activation and Recruitment FILE REFERENCE: 2879-US

CURRENT APPLICANTION: Inhabitors of Platelet Activation and Recruitment FILE REFERENCE: 1987-US

CURRENT APPLICATION NUMBER: US 60/104,585

PRIOR FILING DATE: 1998-11-06

PRIOR FILING DATE: 1998-11-06

PRIOR FILING DATE: 1998-11-06

PRIOR FILING DATE: 1999-10-13

PRIOR PILING DATE: 1999-10-13

PRIOR PILING DATE: 1999-10-13

SOFTWARE: PATCH NOS: 31

SOFTWARE: PATCH NOS: 31

SOFTWARE: PATCH NOS: 31

SOFTWARE: PATCH NOS: 31
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                                                                                                           274 ILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPPQQFEIQGIGNYQQCHQSILBLFNTS
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181 ASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNE
                                                                                  241 ILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFBIQGIGNYQQCHQSILELFNTS
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; OTHER INFORMATION: construct of human CD39
US-09-835-147-28
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99.8%; Pred. No. 9.5e-210;
tive 1; Mismatches 0;
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Matches 439; Conservative
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APPLICANT: Maliszewski, Charles R.
APPLICANT: Gayle III, Richard B.
APPLICANT: Gayle III, Richard B.
APPLICANT: Price, Virginia L.
APPLICANT: Gimpel, Stewn D.
TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE REFERENCE: 2879-US
CURRENT APPLICATION NUMBER: US/09/835,147
CURRENT FILING DATE: 1998-10-16
PRIOR PILING DATE: 1998-10-16
PRIOR PLING DATE: 1998-11-06
PRIOR PLING DATE: 1998-11-06
PRIOR PLING DATE: 1999-10-13
PRIOR PLING DATE: 1999-10-13
FRIOR PLING DATE: 1999-10-13
NUMBER OF SEQ ID NOS: 31
SEQ ID NO 29
LENGTH: 473
                             144 SNYPFDFOGARIITGOEEGAYGWITINYLLGKFSOKTRWFSIVPYETNNOETFGALDLGG
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US-09-835-147-29
'Sequence 29, Application US/09835147
'Sequence 29, Application US/09835147
'Satemi No. US20020002277A1
'GENERAL INFORMATION'
                                                                                                                                                                                                                                                                                                                                                                                                                                  421 NLTNMIPAEQPLSTPLSHST 440
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YCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEE
                                                                                           IXTSYAGVKEKYLSEYCFSGTXILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYML
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OTHER INFORMATION: Description of Artificial Sequence:
OTHER INFORMATION: construct of human CD39
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
99.9%; Score 2349; DB 9;
Best Local Similarity 99.8%; Pred. No. 9.6e-210;
Matches 439; Conservative 1; Mismatches 0;
                                                                                                                                                                                                                                                                    1. Sequence 8, Application US/09835147

1. Sequence 8, Application US/09835147

1. Sequence 8, Application US/09835147

1. GENERAL INFORMATION:

1. APPLICANT: Maliszewski, Charles R.

APPLICANT: Gampel III, Richard B.

APPLICANT: Gimpel III, Richard B.

APPLICANT: Gimpel III, Richard B.

APPLICANT: Gimpel III, Richard B.

APPLICANT: Gimpel III, Richard B.

APPLICANT: Gimpel III, Richard B.

APPLICANT: Applicant Gimpel III, Richard B.

FILE REFERENCE: 2879-UG

CURRENT RILING DATE: 1998-10-16

PRIOR FILING DATE: 1998-10-16

PRIOR FILING DATE: 1999-08-13

PRIOR FILING DATE: 1999-08-13

PRIOR FILING DATE: 1999-10-13

NUMBER OF SEQ ID NOS: 31

SEQUENCE FILING DATE: 1999-10-13

NUMBER OF SEQ ID NOS: 31

SEQUENCE IIING DATE: 1999-10-13
                                                                                                                                                                    NLTNMIPAEQPLSTPLSHST 440
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                               275 ILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPPQQFEIQGIGNYQQCHQSILELFNTS 334
                                                                                                       Sequence 3. Application US/09835147

; Sequence 3. Application US/09835147

; Patent No. US20020002277A1

; GENERAL INFORMATION:
; APPLICANT: MAILSEAWSKI, Charles R.
APPLICANT: MAILSEAWSKI, Charles R.
APPLICANT: Gimple, Stewen D.
TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE REFERENCE: 2879-US
; CURRENT PEPLICATION NUMBER: US/09/835,147

CURRENT PELICANTION NUMBER: US 60/104,585

PRIOR PELING DATE: 1998-10-16

; PRIOR FILING DATE: 1998-11-06

; PRIOR FILING DATE: 1998-11-06

; PRIOR FLING DATE: 1999-10-13

; PRIOR FILING DATE: 1999-10-13

; NUMBER OF SEQ ID NOS: 31

; SOFTWARE: PATENTIN NUMBER: PCT/US99/22955

; RIOR FILING DATE: 1999-10-13

; NUMBER OF SEQ ID NOS: 31

; SEQ ID NO 3

; LEGTHH; 476

; TWOEP PRIOR PRIOR PATENTION NUMBER: PCT/US99/22955
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; OTHER INFORMATION: Description of Artificial Sequence:; OTHER INFORMATION: construct of human CD39 US-09-835-147-3
                                                                                                                                                                                                                                NLTNMIPAEQPLSTPLSHST 440
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Best Local Similarity 99.8%;
Matches 439; Conservative 1
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US-09-835-147-3
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APPLICANT: Ford, John
APPLICANT: Muleco, Julio
APPLICANT: Muleco, Julio
TITLE OF INVENTION: METHODS AND MATERIALS RELATING TO NOVEL CD39-LIKE POLYPEPTIDES
FILE REFERENCE: 28110/35908
CURRENT APPLICATION NUMBER: US/10/092,063
CURRENT FILING DATE: 2002-03-05
PRIOR APPLICATION NUMBER: 09/370,265
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   Gimpel, Steven D. FINIDITORS of Platelet Activation and Recruitment
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OTHER INFORMATION: Description of Artificial Sequence:
OTHER INFORMATION: construct of human CD39
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Best Local Similarity 100.0%; Pred. No. 1.2e-209;
Matches 439; Conservative 0; Mismatches 0;
       RESULT 10
US-10-092-063-38
IS-10-092-063-38
Seplication US/10092063
Publication No. US20020173005A1
GENERAL INFORMATION:
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                           399 IKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYML
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Patent No. US20020138858A1

Patent No. US20020138858A1

Patent No. US20020138858A1

APPLICANT: Pińsky, David J.

TITLE OF INVENTION: CD39/ECTO-ADPASE AS A TREATMENT FOR THROMBOTIC AND FILTLE OF INVENTION: ISCHEMIC DISORDERS
FILE REFERENCE; 0575/59167

CURRENT APPLICATION NUMBER: US/09/374,586

CURRENT FILING DATE: 1999-08-13

NUMBER OF SEQ,ID NOS: 2

SOFTWARE: Patentin Ver. 2.1

SEQ ID NO 2

LENGTH: 439
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                                                                       NLTNMIPAEOPLSTPLSHST 440
                                                                                            459 NLTMMIPAEQPLSTPLSHST 478
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Patent No. US20020002277A1
GENERAL INFORMATION:
APPLICANT: Maliazewski, Charles R.
APPLICANT: Gayle III, Richard B.
APPLICANT: Price, Virginia L.
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Best Local Similarity
Matches 439; 'Conserv
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US-09-835-147-26
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US-09-374-586-2
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US-09-374-586-1
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Sequence 2. Application US/09835147

Patent No. US2002000227A1

GENERAL INFORMATION:
APPLICANT: Maliszewski, Charles R.
APPLICANT: Gayle III, Richard B.
APPLICANT: Price, Virginia L.
APPLICANT: Gimpel, Steven D.
TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE REFERENCE: 2879-US
CURRENT APPLICATION NUMBER: US/09/835,147

CURRENT FILING DATE: 1998-10-16

PRIOR FILING DATE: 1998-10-16
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PRIOR FILING DATE: 2002-01-31
PRIOR APPLICATION NUMBER: PCT/US99/16180
PRIOR APPLICATION NUMBER: 09/20-16
PRIOR FILING DATE: 1999-07-06
PRIOR FILING DATE: 1999-07-09
PRIOR RAPLICATION NUMBER: 09/23,447
PRIOR PILING DATE: 1999-03-19
PRIOR PILING DATE: 1999-03-09
PRIOR FILING DATE: 1999-02-04
PRIOR FILING DATE: 1998-07-24
PRIOR FILING DATE: 1998-07-24
PRIOR FILING DATE: 1998-07-24
PRIOR FILING DATE: 1998-07-24
PRIOR FILING DATE: 1998-07-24
PRIOR APPLICATION NUMBER: 09/118,205
PRIOR FILING DATE: 1998-07-16
NUMBER OF SEQ ID NOS: 39
SEQ ID NO 38
LENGTH: 502
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99.8%; Score 2348; DB 9; L
Best Local Similarity 100.0%; Pred. No. 1.3e-209;
Matches 439; Conservative 0; Mismatches 0;
PRIOR APPLICATION NUMBER: US 60/107,466
PRIOR FILING DATE: 1998-11-06
PRIOR APPLICATION NUMBER: US 60/149,010
PRIOR FILING DATE: 1999-08-13
PRIOR FILING DATE: 1999-10-13
PRIOR FILING DATE: 1999-10-13
NUMBER OF SEQ ID NOS: 31
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 2
LENGTH: 510
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US-09-835-147-2
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                                                                                                                                                                                                               CPYSQCAFNGI FLPPLQGDFGAFSAFYFVMKFLNLTSBKVSQBKVTEMMKKFCAQPWEBI
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                                                                                       STQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSPLCYGKDQALWQKLAKDIQVASNEI
                                                                                                                                                    LRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILBLFNTSY
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100.0%; Pred. No. 1.3e-209;
ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                , Sequence 30, Application US/10646308
; Publication No. US20040136992A1
; GENERAL INFORMATION:
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Sequence 1, Application US/09781796B

Publication No. US20030040094A1

GENERAL INFORMATION:
APPLICANT: BEAUDOIN, Adrien R.
APPLICANT: BEAUDOIN, Adrien R.
APPLICANT: ROBSON, Simon
TITLE OF INVENTION: THEREOF AND PROCESS OF PRODUCING THEREOF BY RECOMBINANT
TITLE OF INVENTION: TECHNOLOGY
TITLE OF INVENTION: TECHNOLOGY
TITLE OF INVENTION: TECHNOLOGY
TITLE OF INVENTION UNMABER: US/09/781,796B
CURRENT FILING DATE: 2001-02-12
FILE REFERENCE: 92033: 90019
CURRENT FILING DATE: 1995-04-10
FRIOR PILING DATE: 1995-04-10
FRIOR PILING DATE: 1996-02-01
NUMBER OF SEQ ID NOS: 8
SOFTMARE: Patentin Ver: 2.1
SEQ ID NO 1

LEAGTH: 510
TWENT FILE OF INVENTION NUMBER: US/30,921
FRIOR PILING DATE: 1996-02-01
NUMBER OF SEQ ID NOS: 8
SOFTMARE: Patentin Ver: 2.1
SEQ ID NO 1
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            TQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQK 61
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Best Local Similarity 100.0%; Pred. No. 1.3e-209;
Matches 439; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                LINMIPAEOPLSTPLSHST 440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM: Homo sapiens
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US-09-781-796B-1
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publicant Maliszewski, Charles R.
APPLICANT: Maliszewski, Charles R.
APPLICANT: Gayle III.
APPLICANT: Gimpel, Steven D.
TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment
FILE REFERENCE: 2879-US
CURRENT PELLIAN INDMER: US/09/835,147
CURRENT FILING DATE: 2001-04-13
PRIOR PLIING DATE: 1999-10-16
PRIOR PLIING DATE: 1999-10-16
PRIOR PLIING DATE: 1999-10-16
PRIOR PLIING DATE: 1999-10-16
PRIOR PLIING DATE: 1999-10-13
PRIOR PLIING DATE: 1999-10-13
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302 CPYSOCAFNCIFLPPLOGDFGAFSAFYFVMKFLNLTSEKVSOEKVTEMMKKFCAQPWEEI
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURE:
CTHER INFORMATION: Description of Artificial Sequence:
CTHER INFORMATION: CONSTRUCT of human CD39
NAME/KEY: VARIANT
LOCATION: (39)
CTHER INFORMATION: Any amino acid, preferably Cys or Ser US-09-835-147-4
                                                                                                                                                                                                                                                                                                                    Sequence 4, Application US/09835147
Patent No. US20020002277A1
GENERAL INFORMATION:
                                                                                                                                                                     LTNMIPAEOPLSTPLSHST 440
                                                                                                                                                                                              458 LINMIPAEQPLSTPLSHST 476
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ORGANISM: Artificial Sequence
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Best Local Similarity 98.6°
Matches 431; Conservative
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Oy 304 YSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEEIKT 363

140 YSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEEIKT 363

Qy 364 SYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLNLT 423

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Oy 424 NMIPAEQPLSTPLSHST 476

Db 460 NMIPAEQPLSTPLSHST 476

Search completed: March 7, 2005, 14:12:46

Job time: 54.6189 secs
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GENERAL INFORMATION:
APPLICANT: FORd, John
APPLICANT: FORd, John
APPLICANT: FORd, John
APPLICANT: Walero, Julio
APPLICANT: Wang, George
TITLE OF INVENTION: Methods and Materials Relating to CD39-Like
FILE REFERENCE: 28110/36457
CURRENT APPLICATION NUMBER: US/99/557,800C
CURRENT APPLICATION NUMBER: US/99/557,800C
CURRENT APPLICATION NUMBER: 09/481,238
PRIOR APPLICATION NUMBER: 09/481,265
PRIOR FILING DATE: 1999-08-09
PRIOR FILING DATE: 1999-07-06
PRIOR FILING DATE: 1999-07-06
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Best Local Similarity 100.0%; Pred. No. 4.1e-244;
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ORGANISM: Homo sapiens
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(c) 1993 - 2005 Compugen Ltd.
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US-09-908-510A-4
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US-09-905-742B-4
US-09-923-304-4
US-09-923-304-6
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Sequence 1, Application US/08930921B

Patent No. 6287837

GENERAL INPORMATION:
APPLICANT: BEAUDOIN, Adrien R.
APPLICANT: BEAUDOIN, Adrien R.
TITLE OF INVENTION: TPECHOLOGY

TITLE OF INVENTION: TECHNOLOGY

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SURRENT FILING DATE: 1998-01-02

BARLIER FILING DATE: 1996-04-10

NUMBER OF SEQ ID NOS: 8

SOFTWARE: PATENTING DATE: 1996-04-10

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Best Local Similarity 100.0%; Pred. No. 4.2e-244;
Matches 439; Conservative 0; Mismatches 0;
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ORGANISM: Unknown
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US-09-370-625A-38
US-09-370-625A-38
Sequence 38, Application US/09370625A
Factor No. 6600032
GENERAL INFORMATION:
APPLICANT: Ford, John
TITLE OF INVENTION: METHODS AND MATERIALS RELATING TO NOVEL CD39-LIKE POLYPEPTIDES
TITLE OF INVENTION: METHODS AND MATERIALS RELATING TO NOVEL CD39-LIKE POLYPEPTIDES
CURRENT APPLICATION NUMBER: US/09/370,625A
CURRENT FILING DATE: 1999-07-16
PRIOR FILING DATE: 1999-07-16
PRIOR APPLICATION NUMBER: 09/350,836
PRIOR APPLICATION NUMBER: 09/350,836
PRIOR APPLICATION NUMBER: 09/373,447
PRIOR FILING DATE: 1999-07-09
PRIOR FILING DATE: 1999-07-09
NUMBER OF SEQ ID NOS: 39
SOFTWARE: Patchtin Ver. 2.0
SEQ ID NO 38
LENGTH: 502
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                                                   GENERAL INFORMATION:
APPLICANT: BEAUDOIN, Adrien R.
APPLICANT: BEAUDOIN, Adrien R.
APPLICANT: BEAUDOIN, Adrien R.
APPLICANT: BEAUDOIN, Adrien R.
APPLICANT: BACH, Fritz H.
APPLICANT: ROBSON, Simon
TITLE OF INVENTION: THEREOF AND PROCESS OF PRODUCING THEREOF BY RECOMBINANT
TITLE OF INVENTION: TECHNOLOGY
TITLE OF INVENTION: TECHNOLOGY
FILE REFERENCE: 92033, 90019
CURRENT APPLICATION NUMBER: 08/09/781,796C
CURRENT FILING DATE: 1995-04-10
FRIOR PALICATION NUMBER: 08/419,204
FRIOR PLING DATE: 1995-04-10
FRIOR PELICATION NUMBER: 08/930,921
FRIOR PLING DATE: 1996-04-10
FRIOR PLING DATE: 1996-02-01
FRIOR PLING DATE: 1996-02-01
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FRIOR FILING DATE: 1996-02-01
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100.0%; Pred. No. 4.2e-244;
tive 0; Mismatches 0;
                      ; Sequence 1, Application US/09781796C
; Patent No. 6800284
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US-09-240-639-4
Sequence 4, Application US/09240639
Patent No. 6350447
GENERAL INFORMATION:
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Best Local Similarity 100.
Matches 439; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE: PRT
ORGANISM: Homo sapiens
US-09-781-796C-1
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Sequence 4, Application US/09908510A

Patent No. 6759214

Patent No. 6759214

GENERAL INFORMATION:

APPLICANT: Chadwick, Brian Paul

APPLICANT: Chadwick, Brian Maxia

TITLE OF INVENTION: METHODS AND COMPOSITIONS RELATING TO CD39-LIKE POLYPEPTIDES AND

TITLE OF INVENTION: ACIDS

TITLE OF INVENTION: ACIDS

FILE REFERENCE: 20110/36120B

CURRENT APPLICATION NUMBER: 108/09/908,510A

CURRENT PILING DATE: 2001-07-13

PRIOR APPLICATION NUMBER: 09/240,639

FRIOR APPLICATION NUMBER: 09/240,639

NUMBER OF SEQ ID NOS: 32

SOFTWARE: PATENT VERSION 3.1

SEQ ID NO 4

SEQ ID NO 4
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APPLICANT: Chadwick, Brian Paul
APPLICANT: Friechauf, Anna-Maria
TITLE OF INVENTION: METHODS AND COMPOSITIONS RELATING TO CD39-LIKE
TITLE OF INVENTION: POLYPEPTIDES AND NUCLEIC ACIDS
FILE REFERENCE: 9598-06
CURRENT APPLICATION NUMBER: US/09/240,639
CURRENT PILLING DATE: 1998-01-29
NUMBER OF SEQ ID NOS: 29
SOFTWARE: Patentin Ver. 2.0
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; Pred. No. 5.5e-89;
79; Mismatches 168;
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Best Local Similarity 41.5%;
Matches 180; Conservative 79
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ORGANISM: Homo Sapiens
US-09-908-510A-4
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ORGANISM: Homo sapiens
US-09-240-639-4
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SYC-PYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPW 358
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OPPDFRGAQIISGQEEGVYGWITANYLMGNFLEKNLWHWWV--HPHGVETTGALDLGGAS
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APPLICANT: Chadwick, Brian Paul
APPLICANT: Chadwick, Anna-Maria
TITLE OF INVENTION: METHODS AND COMPOSITIONS RELATING TO CD35
TITLE OF INVENTION: POLYBEPTIDES AND NUCLEIC ACIDS
FILE REFERENCE: 9598-066
CURRENT APPLICATION NUMBER: US/10/107,660
CURRENT FILING DATE: 2002-03-27
PRIOR FILING DATE: 1998-01-29
NUMBER OF SEQ ID NOS: 29
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 4
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464 MLSLTNOIPAESPL 477
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US-10-107-660-4
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APPLICANT: Chadwick, Brian Paul
APPLICANT: Chadwick, Brian Paul
APPLICANT: Chadwick, Anna Maria
APPLICANT: Chadwick, Anna Maria
APPLICANT: Chadwick, Anna Maria
APPLICANT: Frischauf, Anna Maria
TITLE OF INVENTION: ACIDS
FILE REFERENCE: 28110/36120A
FILE REFERENCE: 28110/36120A
CURRENT APPLICATION NUMBER: 09/240,639
PRIOR FILING DATE: 1999-01-29
NUMBER OF SEQ ID NOS: 32
SOFTWARE: Patentin version 3.1
SEQ ID NO 4
LENGTH: 529
LENGTH: 529
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llarity 41.5%; Pred. No. 5.5e-89;
Conservative 79; Mismatches 168;
                              Query Match
38.7%; Score 910.5; DB 4;
Best Local Similarity 41.5%; Pred. No. 5.5e-89;
Matches 180; Conservative 79; Mismatches 168;
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Best Local Similarity
Matches 180; Conserv
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APPLICANT: Chadwick, Brian Paul
APPLICANT: Chadwick, Brian Paul
APPLICANT: Frischauf, Anna Maria
TITLE OF INVENTION: METHODS AND COMPOSITIONS RELATING TO CD39-LIKE POLYPEPTIDES AND
FILE REPERBUCE: 28110/361208
CURRENT APPLICATION NUMBER: US/09/905, 7328
CURRENT FILING DATE: 2001-07-13
PRIOR REPLICATION NUMBER: 09/240, 639
PRIOR PILING DATE: 1999-01-29
SOFTWARE: PALCHIN VERSION 3.1
SEQ ID NO 4
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APPLICANT: JIANG, FENG
TITLE OF INVENTION: DEFECTION AND DIAGNOSIS OF SMOKING RELATED CANCERS
TITLE OF INVENTION: DEFECTION AND DIAGNOSIS OF SMOKING RELATED CANCERS
FILE REFERENCE: UTSC:658US
CURRENT APPLICATION NUMBER: US/09/923,304
CURRENT FILING DATE: 2001-08-06
NUMBER OF SEQ ID NOS: 11
SOFTWARE: Patentin Ver: 2.1
SEQ ID NO 4
LENGTH: 529
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41.5%; Pred. No. 5.5e-89;
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, Sequence 4, Application US/09923304
, Patent No. 6797411
, GENERAL INFORMATION:
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Best Local Similarity
GENERAL INFORMATION:
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APPLICANT: Chadwick, Brian Paul
APPLICANT: Chadwick, Brian Paul
APPLICANT: Frischauf, Anna Maria
ATTLE OF INVENTION: METHODS AND COMPOSITIONS RELATING TO CD39-LIKE POLYPEPTIDES AND
TITLE OF INVENTION: ACIDS
TITLE OF INVENTION: ACIDS
TITLE OF INVENTION: ACIDS
CURRENT APPLICATION NUMBER: US/10/107,576
CURRENT APPLICATION NUMBER: 09/240,639
PRIOR FILING DATE: 1999-01-29
NUMBER OF SEQ ID NOS: 32
                                      YPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGAS 182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               63 NEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSN 122
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              BEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGY
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                                                                                                                                                                                                                            Sequence 4, Application US/10107576
Patent No. 6783959
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOFTWARE: Patentin version 3.1 SEQ ID NO 4
                                                                                                                     464 MLSLTNQIPAESPL 477
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US-10-107-576-4
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US-09-905-732B-4
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US-10-107-576-4
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                 YPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGAS
                                                                                  TQVTFVPQNQTIESPDNALQFRLYGXDYNVYTHSFLCYGXDQALWQKLAKDIQVA-SNEI
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41.5%; Pred. No. 5.5e-89;
Live 79; Mismatches 168;
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APPLICANT: Chadwick, Brian Paul
APPLICANT: Chadwick, Brian Paul
APPLICANT: Crischauf, Anna Maria
TITLE OF INVENTION: METHODS AND COMPOSITIONS
TITLE OF INVENTION: ACIDS
FILE REFERENCE: 28110/36120C
CURRENT FALLING DATE: 2001-07-13
PRIOR APPLICATION NUMBER: US/9905,743B
PRIOR APPLICATION NUMBER: 09/240,639
PRIOR PILING DATE: 1999-01-29
NUMBER OF SEQ ID NOS: 32
SOFTWARE: Patentin version 3.1
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464 MLSLTNQIPAESPL 477
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Best Local Similarity 41.5%
Matches 180; Conservative
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US-09-905-743B-4
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APPLICANT: VENTER, J. Craig et al.
TITLE OF INVENTON: POLYMORPHISMS IN KNOWN GENES ASSOCIATED
TITLE OF INVENTON: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF;
TITLE OF INVENTON: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF;
CURRENT APPLICATION NUMBER: US/09/949,016
CURRENT PILING DATE: 2000-04-14,755
PRIOR FILING DATE: 2000-10-20
PRIOR PILING DATE: 2000-10-03
PRIOR FILING DATE: 2000-10-03
PRIOR FILING DATE: 2000-09-08
PRIOR FILING DATE: 2000-09-08
NUMBER OF SEQ ID NOS: 207012
SOFTWARE: FastSEQ for Windows Version 4.0
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38.7%; Score 910.5; DB 4; Length 41.5%; Pred. No. 5.5e-89; Live 79; Mismatches 168; Indels
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41.5%; Pred. No. 5.5e-89;
iive 79; Mismatches 168;
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Patent No. 6812339
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US-09-949-016-6049
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RESULT 15
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TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF;
FILE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF;
CURRENT PILING DATE: 2000-04-14

PRIOR PPLICATION NUMBER: 60/241,755

PRIOR PPLICATION NUMBER: 60/241,755

PRIOR PPLICATION NUMBER: 60/231,498

PRIOR PPLICATION NUMBER: 60/231,498

PRIOR PLING DATE: 2000-09-08

NUMBER OF SEQ ID NOS: 207012

SEQ ID NO 11328

LENGTH: 556
345 KACHDQETCSFDGVYQPKIKGPFVAFAGFYYTASALNL-SGSFSLDTFNSSTWNFCSQNW 403
                                                  EEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGY 418
                                                                      63 NEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSN 122
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 556;
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                                                                                                                                                                                                                                Sequence 11328, Application US/09949016
Patent No. 6812339
                                                                                                                 419 MLNLTNMIPAEOPL 432
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464 MLSLTNQIPAESPL 477
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; Sequence 11559 Application US/09949016
; Patent No. 681233
; GENERAL INFORMATION:
; TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED
; TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF;
; TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF;
; CURRENT APPLICATION NUMBER: US/09/949,016
; CURRENT FILING DATE: 2000-04-14
; PRIOR PELLOR DATE: 2000-10-20
; PRIOR APPLICATION NUMBER: 60/231,768
; PRIOR APPLICATION NUMBER: 60/231,498
; PRIOR PLILNG DATE: 2000-09-08
; PRIOR FILING DATE: 2000-09-08
; NUMBER OF SEQ ID NOS: 207012
; SEQ ID NOS: 207012
; SEQ ID NO 1559
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     179 GGASTOVTFVPQNOTIESPDNA--LQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQV 236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            237 ASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQF-----EIQGIGNYQQCH 290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 267 HGFH----PCWPRGFSTQVLLGDVYQSPCT----MAQRPQNFNSSARVSLSGSSDPHLCR 318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    291 QSILELFUTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFL--NLTSEKVSQEKVTE 348
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               36 TRDVREPPALKYGIVLDAGSSHTSMFIYKWPADKENDTGIVGQHSSCDVPGGGISSYADN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      210 GGASTOITF---ETTSPAEDRASEVOLHLYGQHYRVYTHSFLCYGRDQVLQRLLASALQT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         62 VNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLS
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Job time : 19.7509 secs
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March 7, 2005, 12:59:07 ; Search time 13.8868 Seconds
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3117.881 Million cell updates/sec
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2398
1 ASTKKTQLTSSTQNKALPEN......NLTNMIPAEQPLSTPLSHST 450
GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                              283416 seqs, 96216763 residues
                                                                                   OM protein - protein search, using sw model
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Gapop 10.0 , Gapext 0.5
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Perfect score:
Sequence:
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Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries Minimum DB seq length: 0 Maximum DB seq length: 200000000

PIR 79:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:* Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

	Description		hypothetical prote		hypothetical prote	probable nucleotid	probable nucleosid	hypothetical prote	7A19.33 protein -	hypothetical prote	probable guanosine	nucleoside triphos	apyrase (EC 3.6.1.	hypothetical prote	hypothetical prote	guanosine-diphosph	nucleoside-triphos	C4-dicarboxylase-b	processing peptida	hypothetical prote	hypothetical prote	TipC protein - sli	44	RNA viral polymera	autolysin, N-acety	hypothetical prote		hypothetical prote	_	hypothetical prote
SUMMARIES	ΩI	156242	D86276	E86276	S50463	T40856	G84442	T34147	C86276	T16696	T39109	848859	JC4616	T04439	T23508	A40732	A55421	S77299	JC6525	T21516	T27332	T17414	B85725	B43963	AB1411	D86247	B84532	B89985	T05213	T18979
	Length DB			405 2											479 2	518 2					307 2						989 2			
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432 LTNMIPAEOPLSTPLSHST 450

hypothetical prote	probable histidine	myosin I beta - bu	(R) -2-hydroxygluta	hypothetical prote	serine/threonine k	spore germination	Mg2+ transporter h	probable permease	probable permease	hypothetical prote	lacticin 481/lacto	hypothetical 51.7	two-component hybr	hypothetical prote	hypothetical prote		
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392 2	494 2	028 2	1415 2	591 2	1900 2	288 1	451 2	461 2	461 2	564 2	927 2	468 2	299 2	835 2	404 2		
4.1	4.0	4.0	4.0		4.0			4.0	4.0		4.0		3.9		3.9		
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RESULT 1 156242

283416

Total number of hits satisfying chosen parameters:

lymphoid c	
C;Species: Homo sapi C;Date: 02-Jul-1996	Lispectes: Homo sapiens (man) Cibate: 02-Uul-1996 #sequence_revision 02-Uul-1996 #text_change 09-Jul-2004
C,Accession: 156242 R;Maliszewski, C.R. J Tmminol 153 35	Cjaccession: 196242 Maliszewski, C.K.; Delespesse, G.J.; Schoenborn, M.A.; Armitage, R.J.; Fanslow, W.C.; Transcol 153 1674-1583 1984
A; Title: The CD39 ly A; Reference number:	. 133, 371-303, 1531 he CD39 lymphoid cell activation antigen. Molecular cloning and structural cha e number: 156242; MUID:95015846; PMID:7930580
A; Accession: A; Status: pre	y; translated from GB/B
A; Molecule A; Residues	
A;Cross-re C;Superfam	A,Cross-references: UNIPROT:P49961; GB:S73813; NID:g765255; PIDN:AAB32152.1; PID:g765256 C;Superfamily: nucleoside triphosphatase chromatin-associated
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λŏ	12 TONKALPENVKYGIVLDAGSSHTSLYIYKMPAEKENDTGVVHQVEECRVKGPGISKFVQK 71
Db	38 TONKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQK 97
λō	72 VNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLS 131
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λ̈́σ	132 NYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGA 191
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Db	218 STQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEI 277
λõ	252 LRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIGGIGNYQQCHQSILBLFNTSY 311
Db	278 LRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTSY 337
λŏ	312 CPYSQCAFNGIFLPPLQGDFGAFSAFYFVWKFLNLTSEKVSQEKVTEMMKKFCAQFWEEI 371
Db	338 CPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQFWEEI 397

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Anthors: Hughes, B.; Huizar, L.

Nature 408, 816-820, 2000

A;Authors: Hunter, J.L.; Jenkins, J.; Johnson-Hopson, C.; Khan, S.; Khaykin, E.; Kim, C.
C.A.; Li, J.H.; Li, Y.; Lin, X.; Liu, S.X.; Liu, Z.A.; Luros, J.S.; Maiti, R.; Marziall,
Rizzo, M.; Rooney, T.; Rowley, D.; Sakano, H.; Southwick, J.S.; Maiti, R.; Marzialli,
Rizzo, M.; Wu, D.; Yu, G.L.; Schwartz, J.R.; Shinn, P.; Southwick, A.M.; Sun, H.; Tallon,
A;Title: Sequence and analysis of chromosome 1 of the plant Arabidopsis.

A;Reference number: A86141; MUID:21016719; PMID:11130712
                                                                                                                                                                                                                                                                                                                         A;Cross-references: UNIPROT:Q9M9T7; GB:AE005172; NID:g7262666; PIDN:AAF43924.1; GSPDB:GN:C;Genetics:
A;Map position: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Gene: SGD:YND1; MIPS:YER005w
A;Cross-references: SGD:S000807
                                                                                                                                                                                                                                                              A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-405 <STO>
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A;Residues: 1-630 <DIE>
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                                                                                     RESOLY:

DR6276

Hypothetical protein F7A19.34 [imported] - Arabidopsis thaliana

C; Species: Arabidopsis thaliana (mouse-ear cress)

C; Date: Drawar-2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004

C; Accession: D86276

C; Accession: D86276

C; Accession: D86276

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C; Accession: D86276

C; Accession: D86276

C; Accession: D86276

D; Hujzar, L.

Nature 408, 816-820, 2000

A; Authors: Hunter, J.L.; Jankins, J.; Johnson-Hopson, C.; Khan, S.; Khaykin, E.; Kim, C.

C; A.; Li, J.H.; Li, Y.; Lin, X.; Liu, S.X.; Liu, Z.A.; Luros, J.S.; Maiti, R.; Marziali, Rizzo, M.; Rooiey, T.; Rowley, D.; Sakano, H.

A; Authors: Salzberg, S.L.; Schwartz, J.R.; Shinn, P.; Southwick, A.M.; Sun, H.; Tallon, ker, M.; Wu, D.; Yu, G.; Fraser, C.M.; Venter, J.C.; Davis, R.W.

A; Title: Sequence and analysis of chromosome 1 of the plant Arabidopsis.

A; Reterence number: A86141; MUID:21016719; PMID:11130712

A; Residues: 1-483 <STO-

A; Cross-references: UNIPROT:Q9X162; GB:AE005172; NID:g5080801; PIDN:AAD39311.1; GSPDB:GN
C; Genetics:

A; Map position: 1

C; Superfamily: nucleoside triphosphatase chromatin-associated
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hypothetical protein F14L17.1 - Arabidopsis thaliana
hypothetical protein F14L17.1 - Arabidopsis thaliana
(mouse-ear cress)
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004
C;Accession: E86276
R;Theologis, A.; Ecker, J.R.; Palm, C.J.; Federspiel, N.A.; Kaul, S.; White, O.; Alonso, Chin, C.W.; Chung, M.K.; Conn, L.; Conway, A.B.; Conway, A.R.; Creasy, T.H.; Dewar, R.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                18;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSL--SNYP 134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGASTQ 194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VIFVPQNQTIESPDNALQFRLYGK-DYNVYTHSFLCYGKDQALWQKLAKDIQVASNE--- 250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -ILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPPQQFEIQG----IGNYQQCHQSILE 305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LF -- NTSYCPYSOCAFNGIFLPPLOGDFGAFSAFYFVMKFLNLTSEKVSOEKVTEMMKKF 363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  423
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LLKEGKENCLYEHCSIGSTFTPDLQGSFLATASFYYTAKFFEL-EEKGWLSELIPAGKRY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VKYGIVLDAGSSHTSLYIYKWPAEKEN -- - DTGVVHQVEECRVK-GPGISKFVQKVNEIG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CAQPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGEEWSKLILEYPTTDEEYLRGYCFSAAYTISMLHDSLGIALDD-ESITYASK----AG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              62;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 483;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ouery Match 21.1%; Score 505; DB 2; Length 48: Best Local Similarity 31.3%; Pred. No. 6.8e-33; Matches 135; Conservative 70; Mismatches 164; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EKHIPLDWALG 460
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A; Cross-references: UNIPROT: P40009; EMBL: U18778; NID: 9603592; PID: 9603597; GSPDB: GN00005
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R;Dietrich, F.S.
Bubmitted to the EMBL Data Library, December 1994
A;Description: The sequence of S. cerevisiae cosmids 9537, 9581, 9495, 9867, and lambda A;Reference number: S50433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          22;
                                                                                                                          63 PGISKFVOKVNEIGIYLIDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRV 122
                                                                                                                                                                                                                                                    LDVVERSLSNYPFDFQG--ARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQ 180
                                                                                                                                                                                                                                                                                       ETFGALDLGGASTQVTFVPQNQTIESPDNALQFRLYGK-DYNVYTHSFLCYGKDQA---L 236
                                                                                                                                                                                                                                                                                                                                                                                                                 237 WOKLAKDIQVASNE-ILRDPCFHPGYKKVVNVSDLYKTPCTK------RFEMTLPF 285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            191 LESLONSVAASTGDGIVEDPCTPKGY-----IYDTHSOKDSSGFLSEESKFKASL-- 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   344 INLTSEKVSQEKVTEMM---KKFCAQPWBEIKTSYAGVKEKYLSEYCFSGTYILSLLLQG 400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            286 QOFELQGIGNYQQCHQSILELF - NTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKF 343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           hypothetical protein YER005w - yeast (Saccharomyces cerevisiae)
C;Species: Saccharomyces cerevisiae
C;Date: 28-May-1993 #sequence_revision 24-Feb-1995 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  29 PGLSSYADNPEGASVSVTKLVEFAKGRIPKGKLKKSDIRLMATAGMRLLDVPVQE---Q1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                   61;
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18.9%; Score 453; DB 2; Length 630;
Best Local Similarity 27.2%; Pred. No. 1.6e-28;
Matches 130; Conservative 91; Mismatches 153; Indels 104;
      Length 405;
                                                                   Indels
Query Match
19.6%; Score 469.5; DB 2;
Best Local Similarity 31.2%; Pred. No. 3.9e-30;
Matches 123; Conservative 65; Mismatches 145;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LGVALDD-ERIKYASKAGKENIPLDWALGAFILN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             401 YHFTADSWEHIHFIGKI--QGSDAGWTLG-YMLN
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Db 224 NEAYRRYLGLLIESENGKYGNTLSDPCSLRG	RESULT 6 G84442 probable nucleoside triphosphatase [imported] - Arabidopsis thaliana C;Species: Arabidopsis thaliana (mouse-ear cress) C;Date: 02-Feb-2001 #sequence_revision 02-Feb-2001 #text_change 09-Jul-2004 C;Accession: G8442 R;Lin, X; Raul, S; Rounalley, S.D.; Shea, T.P.; Benito, M.I.; Town, C.D.; Fujii, C.Y.; R;Lin, X; Raul, S; Rounalley, S.D.; Shea, M.; VanAken, S.B.; Umayam, L.; Tallon, L., euss, D.; Nierman, W.C.; White, O.; Eisen, J.A.; Shen, M.; VanAken, S.B.; Umayam, L.; Tallon, L., euss, D.; Nierman, W.C.; White, O.; Eisen, J.A.; Salzberg, S.L.; Fraser, C.M.; Venter, J. Nature 402, 761-768, 1999 A;Title: Sequence and analysis of chromosome 2 of the plant Arabidopsis thaliana. A;Reference number: A84422 A;Accession: G84442 A;Accession: G84442 A;Accession: G84442 A;Accession: G84442 A;Accession: G8442 A;Accession: G8442 A;Accession: G8442 A;Gentics: DNA A;Residues: 1-516 <sto> A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Genetics: A;Gen</sto>	Query Match Query Match 17.0%; Score 406.5; DB 2; Length 516; Best Local Similarity 27.5%; Pred. No. 7e-25; Matches 117; Conservative 68; Mismatches 187; Indels 53; Gaps 13; Qy 20 NVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVHQVEECRVK-GPGISKPVQKVNEIGIY 78 18.1	OY 197 FVPONOTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALW-OKLAKDIQVAS 248 230 FVSSEPMPPEFSRTISFGNVTYNLYSHSFLHFGQNAAHDKLWGSLLSRDHNSAVEPTR 287 QY 249 NEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEWTLPFQQFEIGGIGNYQCHQSILELFN 308
Qy 20 NVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVK-GPGI 65 Db 7 NDRFGIVIDAGSSGSRIHVFKWQDTESLLHATNQDSQSILQSVPHIHQEKDWTFKLNPGL 66 Qy 66 SKFVQKVNB-IGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLD 124	273 281 331 381 590	Tu, Wood, V.; Rajandream, M.A.; Barrell, B.G. T.; Wood, V.; Rajandream, M.A.; Barrell, B.G. tta Library, October 1999 552 translated from GB/EMBL/DDBJ PROT:Q9USP2; EMBL:AL121783; PIDN:CAB57847.1; GSPDB:GN00068; SPDB: 555 17.3%; Score 416; DB 2; Length 572;	Matches 131; Conservative 69; Mismatches 156; Indels 124; Gaps 19; Qy 22 KYGIVLDAGSSHTSLYIXKWPAEKER 156; Indels 124; Gaps 19; Db 4 KYGIFIDAGSSGRLLIYSWDYDTDSSLSDKVKKLPLIETGIGDGGKWSLKVQPGISSFP 69 TO QKVNEIG-IYLTDCWERAREVIPRSCHOETPVYLGATAGWELLRWESELADRVLDVVER 128 G4 NNPKGHYGKKHLKELLDFAAHAIPKDVHKETPVFLSATAGWELLRWESELADRVLDVVER 120 Qy 129 SL-SNYPFDFQGARIITGQEGAYGWITINYLLGKFSQKTRWFSIVPYETNNOFTF 183 121 YIKKNYDPDIPNCSNSIRVIDGKAGGAYGWITINYLLKTLEEK

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A;Authors: Salzberg, S.L.; Schwartz, J.R.; Shinn, P.; Southwick, A.M.; Sun, H.; Tallon, Ker, M.; Wu, D.; Yu, G.; Fraser, C.M.; Venter, J.C.; Davis, R.W.
A;Title: Sequence and analysis of chromosome 1 of the plant Arabidopsis.
A;Reference number: A86141; MUID:21016719; PMID:11130712
A;Accession: C86276
A;Accession: C86276
A;Accession: C86276
A;Residues: 1-508 <ATO.
A;Residues: 1-508 <ATO.
A;Coss-references: UNIPROT:Q9XI63; GB:AE005172; NID:g5080800; PIDN:AAD39310.1; GSPDB:GN:CGGenetics:
A;Map position: 1
C;Superfamily: nucleoside triphosphatase chromatin-associated
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A;Experimental source: strain Bristol N2
CyGenetics
A;Gene: CESP:R07E4.4
A;Introns: 39/1; 67/1; 145/2; 192/1; 244/3; 317/3; 451/3; 488/2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          E----ILRDPCFHPGYKKVVNV-SDLYKTPCTK-RFEMTLPFQQFEIQGIGNYQQCHQSI 303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           268 STGEGIVPDPCIPKGYILETNLQKDLPGFLADKGKFTATL-----QAAGNFSECRSAA 320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       --KKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQ 418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          78
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C;Species: Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Accession: T16696
R;Miller, N.
submitted to the EMBL Data Library, October 1995
A;Description: The sequence of C. elegans cosmid R07E4.
A;Reference number: Z18561
A;Reference number: Z18561
A;Reference preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 79 LTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSNYPFDFQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNN-QETFGALDLG-----GA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           192 STQVTFVPQNQTIESPDNALQFRLYGK-DYNVYTHSFLCYGKDQALWQKLAKDI-QVASN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           20 NVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVK-GPGISKFVQKVNEIGIY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 508;
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                                                                                                                                                                                                                                                                                                                                                                                                                                     16.5%; Score 394.5; DB 2; Length 5
28.2%; Pred. No. 6.4e-24;
.ive 71; Mismatches 171; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
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16.0%; Score 383.5; DB 2;
Best Local Similarity 25.9%; Pred. No. 5.7e-23;
Matches 123; Conservative 85; Mismatches 194;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          419 GSD--AGWTLG-YMLN 431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | | | ::||
436 EEDIPLDWALGAFILN 451
                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 16.5%;
Best Local Similarity 28.2%;
Matches 123; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Molecule type: DNA
A;Residues: 1-557 <MIL>
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(5)Species: Arabidopsis thaliana (mouse-ear cress)
(5)Species: Arabidopsis thaliana (mouse-ear cress)
(5)Species: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004
(5)Accession: C86276
(8)Accession: C86276
(
                                                                                                                           hypothetical protein C33H5.14 - Caenorhabditis elegans
C.Species: Caenorhabditis elegans
C.Species: 29-Oct-1999 #sequence_revision 29-Oct-1999 #text_change 09-Jul-2004
C.Accession: T34147
R.Bradshaw, H.; Stellyes, L.
submitted to the EMBL Data Library, November 1995
A; Description: The sequence of C. elegans cosmid C33H5.
A; Reference number: 221482
A; Reference number: 221482
A; Reference number: T34147
A; Reference number: DNA
A; Reference number: DNA
A; Reference number: DNA
A; References: UNIPROT: Q18411; EMBL: U41007; PIDN: AAAB2272.1; CESP: C33H5.14
A; Experimental source: strain Bristol N2
C; Genetics:
A; Gene: CESP: C33H5.14
A; Introns: 2214; 83/1; 120/2; 167/1; 269/3; 399/3
C; Superfamily: nucleoside triphosphatase chromatin-associated
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            248 GNS--NDSCSPRGLNRLIG----------EFTVNGTGEWDVCLAQVSSLI 285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    308 NTS---YCPYSQCAFNGIFLPPLQ---GDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMK 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                286 GDKAQPSCPNPTCFLRNVIAPSVNLSTVQLYGFSEYWYTTSNFGSGGE-YHYQKFTDEVR 344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   362 KFCAQPWEEI-----KTSYAGVKEKYLSEYCFSGTYILSLILQGYHFTADSWEHI-HFIG 415
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20 NVKYGIVLDAGSSHTSLYIYKWPAEKENDIGV---VHQVEECRVK-GPGISKFVQKVNEI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               22 NIKYGVICDAGSSGTRLFVYTLKPLSGGLTNIDTLIHESEPVVKKVTPGLSSFGDKPEQV
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16.8%; Score 402.5; DB 2;
Best Local Similarity 26.7%; Pred. No. 1.4e-24;
Matches 116; Conservative 69; Mismatches 187;
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Oy 253 RD	RESULT 11 \$48859 nucleoside triphosphatase precursor, chromatin-associated - garden pea nucleoside triphosphatase precursor, chromatin-associated - garden pea C;Species: Pisum sativum (garden pea) C;Species: Dian-1995 #sequence_revision 13-Jan-1995 #text_change 09-Jul-2004 C;Accession: \$65147; \$48859 R;Hsieh, H.L.; Trong, C.G.; Thomas, C.; Roux, S.J. R;Hsieh, H.L.; Trong, C.G.; Thomas, C.; Roux, S.J. R;Hsieh, H.L.; Tong, C.G.; Thomas, C.; Roux, S.J. A;Hitle: Light-modulated abundance of an mRNA encoding a calmodulin-regulated, chromatin A;Acference number: \$65147 A;Molecule type: mRNA A;Residues: 1-455 <hsz> A;Cross-references: UNIPROT:P52914; EMBL:Z32743; NID:g563611; PIDN:CAAR33655.1; PID:g5636 C;Superfamily: nucleoside triphosphatase chromatin-associated C;Keywords: nucleus</hsz>	Query Match 15.6%; Score 374; DB 2; Length 455; Best Local Similarity 25.6%; Pred; No. 2.5e-22; Indels 88; Gaps 18; Qy 23 YGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRYGPGISKFVQKVNEIGIYL 19 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11; 11;	249 NEILRDPCFHPGYKKVNVSDLYKTPCTKRFEMTLPFQGFEIQGIGNYQQCHQS [
Qy 23 YGİVLDAGSSHTSLYIYKMPAEKENDTGVVHQVEECRVK-GPGISKFVQKVNEIGI 77	Qy 238 QKLAKDIOVASNBILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLFPQGFEIGGIG 294 1	RESULT 10 T39109 T39109 C; Detail guanosine-diphosphatase - fission yeast (Schizosaccharomyces pombe) C; Detail Schizosaccharomyces pombe C; Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 09-Jul-2004 C; C; Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 09-Jul-2004 C; Accession: T39109 A; Rarrall, B.G.; Rajandream, M.A.; Quail, M.; Seegar, K.; Harris, D. submitted to the EMBL Data Library, October 1999 A; Resrence number: Z1828 A; Accession: T39109 A; Scatus: preliminary; translated from GB/EMBL/DDBJ A; Residues: 1-556 ABAR> A; Residues: 1-556 ABAR> A; Residues: 1-556 ABAR> A; Residues: 1-556 ABAR> A; Residues: 1-556 ABAR> A; Cross-referencés: UNIPROT:Q9UT35; EMBL:AL121741; PIDN:CAB57338.1; GSPDB:GN00066; SPDB:A; Excentics: Strain 972h-; cosmid C824 A; Gene: SPDB:SPAC824.08 A; Map position: 1	Ouery Match 15.9%; Score 381.5; DB 2; Length 556; Best Local Similarity 27.1%; Pred. No. 8.3e-23; Matches 121; Conservative 71; Mismatches 181; Indels 73; Gaps 17; Qy 22 KYGIVLDAGSSHTSLYIYKMPAEKENDTGVVHQVEECRVKGPGISKFVQKVNEIGIYL 79;

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C;Species: Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 09-Jul-2004
C;Accession: T23508
R;Gardner, A.
submitted to the EMBL Data Library, November 1996
A;Reference number: 219750
A;Reference number: 219750
A;Reference number: 219750
A;Reference number: 219750
A;Reference number: 219750
A;Reference number: 219750
A;Residues: preliminary; translated from GB/EMBL/DDBJ
A;Residues: 1-479 < WILL>
A;Residues: 1-479 < WILL>
A;Residues: UNIPROT: Q9XU84; EMBL: Z83113; PIDN: CAB05544.1; GSPDB: GN00023; CESP: Ki
            Cyporhetical protein T18B16.150 - Arabidopsis thaliana
Cyporcies: Arabidopsis thaliana (mouse-ear cress)
Cybate: 30-Apr-1999 #sequence_revision 30-Apr-1999 #text_change 09-Jul-2004
Cyfocession: T04439
RyBevan, M.; Benes, V.; Rechmann, S.; Borkova, D.; Ansorge, W.; Bancroft, I.; Mewes, H.W submitted to the Protein Sequence Database, April 1998
A;Reference number: Z15359
A;Accession: T04439
A;Molecule type: DNA
A;Residues: 11.052 - NEV>
A;Accession: T04430
A;Cross-references: UNIPROT:049676; EMBL:AL021687
A;Experimental source: cultivar Columbia; BAC clone T18B16
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hypothetical protein K08H10.4 - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 09-Jul-2004
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A;Introns: 36/3; 83/3; 189/1; 300/2; 412/3
C;Superfamily: nucleoside triphosphatase chromatin-associated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         13.8%; Score 332; DB 2; Length 10
26.9%; Pred. No. 2.1e-18;
ive 70; Mismatches 149; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Map position: 4
A;Introns: 79/3; 118/3; 217/1; 295/3; 396/3; 531/2; 815/3
A;Note: T18B16.150
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Best Local Similarity
Matches 104; Conserva'
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apyrase (EC 3.6.1.5) precursor - potato
N;Alternate names: adenylpyrophosphatase; ATP-diphosphohydrolase
C;Species: Solanum tuberosum (potato)
C;Date: 10-May-1996 #sequence_revision 19-Jul-1996 #text_change 09-Jul-2004
C;Accession: JC4616; PC4147
R;Handa, M; Guidotti, G.
Biochban: Biochban and clouing of a soluble ATP-diphosphohydrolase (Apyrase) from pot A;Reference number: JC4616; MUID:96158985; PMID:8579614
A;Accession: JC4616
A;Molecule type: mRNA
A;Residues: 1-454 *HAN>
A;Cross-references: UNIPROT:P80595; GB:U58597; NID:g1381632; PIDN:AAB02720.1; PID:g13816
A;Molecule type: protein
A;Residues: 59-95;96-131;132-160;236-253;332-345 *HA2>
A;Residues: 59-95;96-131;132-160;236-253;332-345 *CHA2>
A;Residues: 59-95;96-131;132-160;236-253;332-345 *CHA2>
A;Residues: 59-95;96-131;132-160;236-253;332-345 *CHA2>
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G]ycoprotein; hydrolase; transmembrane protein
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            60 VKGPGISKFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESBELA 119
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   :::| | :: | : | | :: | 187
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          230 YGKDQALMQKLAKDIQVASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFE 289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             290 IQGIGNYQQCHQSILELFN-TSYCPYSQCAFNGIFLPPLQGDFG-----AFSAFYFVM 341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ----SSWKRCRRLTRHALKINAKCNIEECTFNGVW-----NGGGGDGQKNIHASSFFYDIG 343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 344 AQVGIVDTKFPSALAKPIQYLNAAKVACQTNVADİKSIFPKTQDRNIPYLCMDLIYEYTL 403
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8 LISSIQNKALP-----ENVKYGIVLDAGSSHISLYIYKWPAEKENDIGVVHQVEECR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 2; Length 454;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches 116; Conservative
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Best Local Similarity
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Query Match

22;

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71; Mismatches 194; Indels , DB 2; 4.1e-18;

Score 323; Pred. No. 4

13.5%; 27.0%;

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327

E--YCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLNL 432 : :| : :|| || || DSHFCLDLSFQWSLLHTGYDIPLQ--RELRTGKKIANKEIGWCLGASLPL

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61 KGPGISKFVQKVNEIGI--YLTDCMERAREVIPRSQHQETPVYLGATAGMRLL-RMESEE 117
                                                                                                                                                                                                                                                                                                                                                                                                                                                           LADRVLDVVERSLSNYPF---DFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVP 174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            233 --ANGPKLPTAAVFDLGGGSTQIVFEPTFPINEKMVDGEHKFDLKFGDENYTLYQFSHLG 290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       YG-----KDQALWQKLAKDIQVASNE----ILRDPCFHPGYKKVVNVSDLYKTPCTK 277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    291 YGLKEGRNKVNSVLVENALKDGKILKGDNTKTHQLSSPCLPP----KVNATNEKVTLESK 346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -----ETYTIDFIGPDEPSGAQCRFLTDEILNKDAQCQSPPCSFNGVHQPSLVRTFK 398
                                            C;Function:
A;Description: hydrolase
C;Superfamily: nucleoside triphosphatase chromatin-associated
C;Superfamily: nucleoside triphosphatase chromatin-associated
C;Superfamily: nucleoside triphosphatase chromatin-associated
C;Reywords: glycoprotein; Golgi apparatus; hydrolase; transmembrane protein
F;10-24/Domain: transmembrane #status predicted
F;10-24/Domain: transmembrane #status predicted
F;41,280,335/Binding site: carbohydrate (Asn) (covalent) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        278 RFEMTLPFQQFEIQGIG----NYQQCHQSILELFN-TSYCPYSQCAFNGIFLPPL----
                                                                                                                                                                                                                                                                                                                           1 ASTKKTQLTSSTQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   YETNNQE--TFGALDLGGASTQVTFVPQ---NQTIESPDNALQFRLYGKDYNVYTHSFLC
                                                                                                                                                                                                                                                                         Matches 127; Conservative
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Best Local Similarity
                     A; Map position: 5L
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                                                                                                                                                                                                                                                                                           -DFQGA-RIITGQEEGAYGWITINYLLGK-FSQKTRWFSIVPYETNNQETFGALDLGGAS 192
                                                                                                                                                                                                                                                                                                                                                                                               TQVTFVPQNQTIESP----DNALQFRLYGKDYNVYTHSFLCYGKDQALWQ--KLAKDIQV 246
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            368 EIACRREKTEIDDG----SHWMPWQCLDLTYIYSLLRDGYQF--EDNQPLVLAKKIKGM 420
                                                                                                                        23 YGIVLDAGSSHTSLYIYKW---PAEKENDTGVVHQVEE---CRVKGPGISKFVQKVNEIG 76
                                                                                                                                                                                                                                                                                                                           361 KKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGS
                                               Gaps
                                            65;
                                          Indels
               Pred. No. 1.3e-18;
1; Mismatches 191;
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27.0%; ELC. 71;
                                          Conservative
               Similarity
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Cross-references: EMBL:U18779; NID:g603625; PIDN:AAB65000.1; PID:g603637; MIPS:YEL042w

A,Gene: SGD:GDA1 A,Cross-references: SGD:S0000768; MIPS:YEL042w

Molecule type: DNA;Residues: 1-518 <DIE>

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Q7yta4 schistosoma Q8k012 mus musculu Q8kv02 mus musculu Q9xi62 arabidopsis Q6qqaB arabidopsis Q9h1dB arabidopsis Q6543 oryza sativ Q6frc candida gla Q8ccv2 mus musculu Q94cz2 arabidopsis Q9m97 arabidopsis Q6dh30 brachydanio Q80612 arabidopsis
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MEDLINE=99332082; PubMed=10405171; DOI=10.1016/S0014-5793(99)00751-6;
Matenumoto M., Sakurai Y., Kokubo T., Yagi H., Makita K., Matsui T.,
Titani K., Fujimura Y., Narita N.;
"The cDNA cloning of human placental ecto-ATP diphosphohydrolases I and II.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDINE-56096732, PubMed=8529670;
Christoforidis S., Papamarcaki T., Galaris D., Kellner R., Tsolas O.;
"Purification and properties of human placental ATP
diphosphohydrolase.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A. (ISOFORM VASCULAR).
MEDLINE=95015846; PubMed=7930580;
Maliszewski C.R., Delespesse G.J.T., Schoenborn M.A., Armitage R.J.,
Panslow W.C., Nakajima T., Baker E., Sutherland G.R., Poindexter K.,
Birks C., Alpert A., Friend D., Gimpel S.D., Gayle R.B. III;
"The CD39 lymphoid cell activation antigen. Molecular cloning and
structural characterization.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE OF 1-30, 49-65, 94-97; 88-93; 193-223; 245-265; 382-385 AND 399-405 (ISOFORM PLACENTAL I).
TISSUE-Placenta;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TISSUE-Umbilical vein;
MEDLINE=97149443; PubMed=8996251;
Robson S.C., Kaczmarek E., Siegel J.B., Candinas D., Koziak K.,
Millan M., Hancock W.W., Bach F.H.;
"Loss of ATP diphosphohydrolase activity with endothelial cell
                                                                                                                                                                                                                                                                                                                                                   ENP1 HUMAN STANDARD; PRT; 510 AA.
P49961; Q9UQQ9; Q9Y3Q9;
01-OCT-1996 (Rel. 34, Created)
01-OCT-2004 (Rel. 34, Last sequence update)
25-OCT-2004 (Rel. 45, Last annotation update)
Ectonucleoside triphosphate diphosphohydrolase 1 (EC 3.6.1.5)
(NTPDasel) (Ecto-ATP diphosphohydrolase) (ATPDase)
activation antigen) (Ecto-apyrase) (CD39 antigen).
Name=ENTPD1; Synonyms=CD39;
Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE OF 240-242; 162-166; 185-189; 210-223; 243-249 AND
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                                                09X162
06NQA8
094AP8
08H1D8
06Z543
06ZFC2
08CFC2
09CFC2
09M9T7
09M9T7
                 QBKOL2
                                    QBUVX9
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Copyright (c) 1993 - 2005 Compugen Ltd.
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Result ģ Searched:

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Name=Placental I;
IsoId=P49961-2; Sequence=VSP_003607;
IsoId=P49961-3; Sequence=VSP_003607, VSP_003608, VSP_003609;
IsoId=P49961-3; Sequence=VSP_003607, VSP_003608, VSP_003609;
TISSUE SPECIFICITY: Expressed primarily on activated lymphoid
ordells. Also expressed in endothelial tissues. The vascular isoform and the placental isoform II are present in both placente and umbilical vein, whereas placental isoform I is present in placenta
                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE-20102721; PubMed=10636909; DOI=10.1074/jbc.275.3.2057; Koziak K., Kaczmarek E., Kittel A., Sevigny J., Blusztajn J.K., Schulte Am Esch J. II, Imai M., Guckelberger O., Goepfert C., Qawi I.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Could also
MEDLINE=99062444; PubMed=9846014;
Makita K., Shimoyama T., Sakurai Y., Yagi H., Matsumoto M., Narita N Sakamoto Y., Saito S., Ikeda Y., Suzuki M., Titani K., Fujimura Y.; Placental ecto-ATP diphosphohydrolase: its structural feature distinct from CD39, localization and inhibition on shear-induced
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      J. Biol. Chem. 275:2057-2062(2000).

-I. FUNCTION: In the nervous system, could hydrolyze ATP and other nucleotides to regulate purinergic neurotransmission. Could als be implicated in the prevention of platelet aggregation. Hydrolyzes ATP and ADP equally well.

-I. CATALYTIC ACTIVITY: ATP + 2 H(2)O = AMP + 2 phosphate.

-I. COPACTOR: Requires calcoium and magnesium.

-I. SUBCNITY: Homodimer; disulfide linked (By similarity).

-I. SUBCELLOLAR LOCATOR: Integral membrane protein (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FIG. 11 PACELLANGOUS DE LOS TO TO TO S WITH ATP AS SUBSTRATE AND MISCELLANGOUS DELIMAL DE LOS DELIMAL DE LOS DELIMAL DE LOS DELIMALENTY: BASIONIZARITY: BASIONIZARITY: BASIONIZARITY: BASIONIZARITY: BASIONIZARITY: BASIONIZARITY: BASIONIZARITY: MWW=PROW, NOTE=CD guide CD39 entry; WWW="http://www.ncbi.nlm.nih.gov/prow/cd/cd39.htm".
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Palmitoylation targets CD39/endothelial ATP diphosphohydrolase to
                                                                                                                                                                                                                                                                                                                          CHARACTERIZATION.
MEDLINE=96215267; PubMed=8626624; DOI=10.1074/jbc.271.17.10391;
MEDLINE=96215267; PubMed=8626624; DOI=10.1074/jbc.271.17.10391;
Mang T.F., Guidotti G.;
"CD39 is an ecto-(Ca2+,Mg2+)-apyrase.";
J. Biol. Chem. 271:9898-9901(1996).
                                                                                                                                                                             MEDLINE=97115858; PubMed=8955160; DOI=10.1074/jbc.271.51.33116; Kaczmarek E., Koziak K., Sevigny J., Siegel J.B., Anrather J., Beaudoin A.R., Bach F.H., Robson S.C.; identification and characterization of CD39/vascular ATP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Event=Alternative splicing; Named isoforms=3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IsoId=P49961-1; Sequence=Displayed;
                                                                                                                                                                                                                                                            diphosphohydrolase.";
J. Biol. Chem. 271:33116-33122(1996)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               only.
PTM: The N-terminus is blocked.
                                                                                                                    Int. J. Hematol. 68:297-310(1998)
                                                                                                        platelet aggregation."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Name=Vascular;
                                                                                                                                                                                                                                                                                                                                                                                                                                                 PALMITOYLATION
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KTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLN 431
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTSY 311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       278 LRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTSY 337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     371
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      132 NYPEDEQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGA 191
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       277
                                                                                                                                                                                                                                                                                                                                                                                                                                      7
                                                                                                                           Cytoplasmic (Potential).
N-linked (GlCNAc. .) (Potential).
N-linked (GlCNAc. .) (Potential).
N-linked (GLCNAc. .) (Potential).
N-linked (GLCNAc. .) (Potential).
N-linked (GLCNAc. .) (Potential).
N-linked (GLCNAc. .) (Potential).
N-linked (GLCNAc. .) (Potential).
In and isoform Placental II).
Frid=VSP_003607.
                                                                                                                                                                                                                                         ASITQSRPA
Placental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 72 VNEIGIYLTDCMERAREVIPRSOHOETPVYLGATAGMRLLRMESEELADRVLDVVERSLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEEI
                                                                                                                                                                                                                                                                                                                                                                                                                               192 STOVTEVPONOTIESPDNALOFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            218 STQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEI
                                                                                                                                                                                                                                                                                                                                                                                                                 12 TONKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQK
                                                                                                                                                                                                                                                                                                                                                                                               Gaps
GO; GO:0005887; C:integral to plasma membrane; TAS.
GO; GO:0007596; P:blood coagulation; TAS.
InterPro; IPR000407; GDAI_CD39_NTPase.
PRAM; PF01150; GDAI_CD39_TI
PROSITE; PS001238; GDAI_CD39 NTPASE; 1.
Alternative splicing; Antigen; Calcium; Direct protein sequencing; Glycoprotein; Hydrolase; Lipoprotein; Magnesium; Palmitate;
                                                                                                                                                                                                                                                                                                                                                                                              .
0
                                                                                                                                                                                                                                                                            /FTIG=VSP_003608.
Missing (In isoform Placental II)
/FTIG=VSP_003609.
                                                                                                                                                                                                                                            PFTSAPPAPTSCCFLFQIQ (in isoform 11).
                                                                                                                                                                                                                                                                                                                                                                         Length 510;
                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                    57964 MW; BAD87D2499649159 CRC64;
                                                                                                      Potential.
Extracellular (Potential)
                                                                                         Cytoplasmic (Potential).
                                                                                                                                                                                                                                                                                                          SS -> G (In Ref. 5).
D -> K (in Ref. 4).
T -> TGET (in Ref. 5).
V -> Y (in Ref. 5).
                                                                                                                                                                                                                                                                                                                                                                          Score 2348; DB 1; L
Pred. No. 2.9e-173;
                                                                                                                                                                                                                                                                                                                                                                                       100.0%; Pred. No. 2.9
ive 0; Mismatches
                                                                                                                          Potential
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                                                                                                                                                                                                                                                                                                                                                                             97.98;
                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity 100.
Matches 439; Conservative
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162
208
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37
478
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510
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RESULT 2 ENP1 MOUSE

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AJ133134; CAB41886.1; -. AJ133134; CAB41887.1; -.

EMBL;

PIR; 156242; 156242. Genew; HGNC:3363; ENTPD1. MIM; 601752; ---

EMBL; S73813; AAB32152.1; -. EMBL; U87967; AAB47572.1; -.

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Name=Entpd1
                   CARBOHYD
CARBOHYD
CARBOHYD
CARBOHYD
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDIANE 19899871; PubMed=9730622; Schoenborn M.A., Jenkins N.A., Copeland N.G., Gilbert D.J., Gayle R.B. III, Maliszewski C.R.; "Gene structure and chromosome location of mouse Cd39 coding for an
                                                                                                                                                                                                                                                                                                                               я.
К.С.
                                  01-NOV-1997 (Rel. 35, Created)
01-NOV-1997 (Rel. 35, Last sequence update)
05-JUL-2004 (Rel. 44, Last annotation update)
05-JUL-2004 (Rel. 44, Last annotation update)
Ectonucleoside triphosphate diphosphohydrolase 1 (EC 3.6.1.5)
(NTPDasel) (Ecto-ATP diphosphohydrolase) (ATPDase) (Lymphoid cell activation antigen) (Ecto-apyrase) (CD39 antigen).
Name=Entpdl; Synonyms=Cd39;
Mus musculuģ (Mouse).
                                                                                                                                                                                                     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                        MEDLINE=95015846; PubMed=7930580;
Maliszewski C.R., Delespesse G.J.T., Schoenborn M.A., Armitage R., Franslow W.C., Nakajima T., Baker E., Sutherland G.R., Poindexter Fliks C., Alpert A., Friend D., Gimpel S.D., Gayle R.B. III;
"The CD39 lymphoid cell activation antigen. Molecular cloning and structural characterization.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Cytoplasmic (Potential)
  510 AA
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EMBL; AP041818; AAC83203.1; -.
EMBL; AF041812; AAC83203.1; JOINED.
EMBL; AP041813; AAC83203.1; JOINED.
EMBL; AP041815; AAC83203.1; JOINED.
EMBL; AP041815; AAC83203.1; JOINED.
EMBL; AP041816; AAC83203.1; JOINED.
EMBL; AP041817; AAC83203.1; JOINED.
                                                                                                                                                                                                                                                                                                                                                                                                                                    Immunol. 153:3574-3583(1994)
STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         37
478
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510
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38
479
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             252 LRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPPQQFEIQGIGNYQQCHQSILELFNTSY 311
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                                                                                                                                                                                                                                                                                                                                                    Gaps
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MEDLINE=99279253; Pubmed=10349636; DOI=10.1016/S0076-6879(99)03004-9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
1 (GlcNAc. . .) (Potential).
1 (GlcNAc. . .) (Potential).
2 (GlcNAc. . .) (Potential).
3 (GlcNAc. . .) (Potential).
4 (GlcNAc. . .) (Potential).
5 (GlcNAc. . .) (Potential).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-MAR-2003 (TrEMBLrel. 23, Created)
01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
01-077-2003 (TrEMBLrel. 25, Last annotation update)
Mus musculus adult male testis cDNA, RIKEN full-length enriched
11brary, clone:4921311005 product:ectconucleoside triphosphate
diphosphohydrolase 1, full insert sequence.
                                                                                                                                                                                                                                                                                                                                                    4
                                                                                                                                                                                                                                                                                Length 510;
                                                                                                                                                                                                                                                                                                                                                    Indels
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MEDLINE-21085660; PubMed=11217851; DOI=10.1038/35055500;
RIKEN FANTOM Consortium;
                                                                                                                                                                                                            8E6A6113D2E13930 CRC64;
                                                                                                                                                                                                                                                                                                                                                    22 /
                                                                                                                                                                                                                                                                                76.5%; Score 1835; DB 1; 76.4%; Pred. No. 1.6e-133;
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                                                                                                                                                                                                                                                                                                                                                    45; Mismatches
N-linked
N-linked
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N-linked
N-linked
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"High-efficiency full-length cDN
Meth. Enzymol. 303:19-44(1999).
                                                                                                                                                                                                            57205 MW;
                                                                                                                                                                                                                                                                                                                                                    Conservative
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226
291
428
57
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       73
226
291
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428
457
510 AA;
                                                                                                                                                                                                                                                                                                            Best Local Similarity
Matches 337; Conserv
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SEQUENCE FROM N.A.

SEQUENCE FROM N.A.

SEQUENCE FROM N.A.

STRAIN-CZECH II; TISSUE-Mammary tumor;

MEDINE-228825; PubMed=1247932; Document C.M., Schuler G.D.,

Strauberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,

Strauberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,

Radischul S.F., Zeeberg B. Buercow K.H., Schaefer C.F., Bhat N.K.,

Altschul S.F., Zeeberg B. Buercow K.H., Schaefer C.F., Bhat N.K.,

Antschul S.F., Jordan H., Moore T., Max S.I., Wang J., Haieh F.,

Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

Antachul S., Loquellano N.H., Peters G.J., Abramson R.D., Mullahy S.J.,

Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,

Raha S.S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

R., Helton B.K., Korfman R.J., Madda A., Gubbs R.A.,

R., Helton B.K., Korfman M., Sodergren E.J., Lu X., Gibbs R.A.,

R., Helton B.K., Korfman M., Green E.D., Dickson M.C.,

R., Radinguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,

Krzywinski M.I., Skalska U., Smailus D.E., Schnerch A., Schein J.E.,

R., Generation and initial analysis of more than 15,000 full-length human
                                                                                                                                                   246 STQITFVPQNSTIESPENSLQFRLYGEDYTVYTHSFLCYGKDQALWQKLAKDIQVSSGGV 305
                                                                                                                                                                                                                                                                     NYPEDEOGARITTGGEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGA
                                 312 CPYSOCAFNGIFLPPLOGDFGAFSAFYFVMKFLNLTSEK--VSOEKVTEMMKKFCAQPWE
                                                                                                                                                                                                                                                                                                                                                                                       LRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTSY
                                                                                                                 STOVTFVPONOTIESPDNALOFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2 SOUSTICE FROM N.A.

SCHAIN-CZECH II; TISSUE-Mammary tumor;
A Strausberg R.;
Submitted (JUL-2001) to the EMBL/GenBank/DDBJ databases.
L Submitted (JUL-2001) to the EMBL/GenBank/DDBJ databases.
DR MGI: MGI: 102805; Entpdl.
DR GO; GO:0005605; C: Dasal lamina; IDA.
DR GO; GO:00016021; C: integral to membrane; TAS.
DR GO; GO:0004050; F: apyrase activity; IDA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      510 AA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              430 LNLTNMIPAEQPLSTPLSHST 450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                and mouse cDNA sequences.
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RP SEQUENCE FROM N.A.

RP SEQUENCE FROM N.A.

RP STRAIN-C57BL/G3; IISUB=Testis;

RA Gachi J., Aizawa K., Akimura T., Hara A., Hashizume W.,

RA Adachi J., Aizawa K., Akimura T., Hara A., Hashizume W.,

RA Hayabida K., Hayataki N., Hiramoto K., Hiracane T.,

Hayabida K., Hayataki N., Hiramoto K., Hiracane T.,

Hayabida K., Hayataki N., Miramoto K., Hiracane T.,

RA Karch H., Kawai J. Kojima Y., Kondo S., Konno H., Kouda M., Koya S.,

RA Karch H., Kawai J., Kojima Y., Kondo S., Konno H., Kouda M., Koya S.,

RA Kurihara C., Matsuyama T., Miyazaki A., Muzama M., Ohsato N., Ohsato N., Ohsato N., Ohsato N., Ohsato N., Osano H.,

RA Saaki D., Shibata K., Shinada T., Sagabe Y., Tagami M.,

RA Saaki D., Shibata K., Shinada T., Sagabe Y., Tagami M.,

RA Tagawa A., Takahashi F., Takaku-Akahira S., Takeda Y., Tagami M.,

RA Tagawa A., Takahashi F., Takaku-Akahira S., Takeda Y., Tanaka T.,

RA Tagawa A., Takahashi P., Takaku-Akahira S., Takeda Y., Tanaka T.,

RA Tagawa A., Takahashi P., Muramatsu M., Hayashizaki Y.;

RADI, AKO25512; BA226486.1; --

RADI, AKO25512; BA226486.1; --

RADI, AKO25512; BA226486.1; --

RADI, AKO25512; BA226486.1; --

RADI, AKO25512; BA226486.1; --

RADI, AKO25512; BA226486.1; --

RADI, AKO25512; BA226486.1; --

RADI, AKO25512; BA226486.1; --

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RADI, AKO25512; BA226486.1; --

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RADI, AKO25512; BA226486.1; --

RADI, AKO25512; BA226486.1; --

RADI, AKO25512; BA226486.1; --

RADI, AKO25512; BA226486.1; --

RADI, AKO25512; BA226486.1; --

RADI, AKO25
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SUCIENCE FROM N.A.

STRAIN=CS7BL/6J; TISSUE=Testis;
STRAIN=CS7BL/6J; TISSUE=Testis;
STRAIN=2050913; Pubmed=11076861; DOI=10.1101/gr.152600;
MEDLINE=2050913; Pubmed=11076861; Nagaoka S., Sasaki N., Carninci P., Ashibata K., Itch M., Aliaha K., Kitsunai T., Tashiro H., Itch M., Akonno H., Akiyama J., Nishi K., Kitsunai T., Tashiro H., Itch M., Amanunco R., Matsumcto H., Sakaguchi S., Ikegami T., Kashiwagi K., Yamanoto R., Matsumcto H., Sakaguchi S., Ikegami T., Kashiwagi K., Pujiwake S., Inoue K., Togawa Y., Izawa M., Ohara E., Watshiki M., Anoeda Y., Ishikawa T., Ozawa K., Tanaka T., Matsuura S., Kawai J., Okazaki Y., Muramatuu M., Inoue Y., Kira A., Hayashizaki Y.;
RIKEN integrated sequence analysis (Rich) system-384-format sequencing pipeline with 384 multicapillary sequencer.";
                                                                                      The FANTOM Consortium, the RIKEN Genome Exploration Research Group Phase I & II Team; the RIKEN Genome Exploration Research based on functional annotation of 60,770 full-length cDNAs."; Nature 420:563-573(2002).
                                                                                                                                                                                                                                                                                                             STRAIN=C57BL/6J; TISSUB=Testis; MEDLINE=20499374; PubMed=11042159; DOI=10.1101/gr.145100; MEDLINE=20499374; PubMed=11042159; DOI=10.1101/gr.145100; Carninci P., Shibata Y., Hayatsu N., Sugahara Y., Shibata K., Itoh M., Konno H., Okazaki Y., Muramatsu M., Hayashizaki Y.; Shibata K., Itoh M., Normalization and subtraction of cap-trapper-selected cDNAs to prepare full-length cDNA libraries for rapid discovery of new genes."; Genome Res. 10:1617-1630(2000).
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                                                             SEQUENCE FROM N.A.
STRAIN=C57BL/6J; TISSUE=Testis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity 76.4%
Matches 337; Conservative
   Nature 409:685-690(2001)
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X MEDINE-22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;

X Klausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,

A Lischul S.F., Zeeberg B. B., Buetow K.H., Schaefer C.F., Bhat N.K.,

A Hischul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,

Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Haiph F.,

Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

A platchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,

Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,

Richards S., Worlby K.C., Hale S., Garcia A.N., Gibbs R.A.,

Nillalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,

Pahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEK--VSQEKVTEMMKKFCAQPWE 369
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STOVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEI 251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTSY 311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   38 TONKPLPENVKYGIVLDAGSSHTNLYIYKWPAEKENDIGVVQQLEECQVKGPGISKYAQK 97
                                         ., IDA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                158 GYPFDFQGAKIITGQEEGAYGWITINYLLGRFTQEQSWLSLIS-DSQKQETFGALDLGGA
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                                                                                                                                                                                                                                                                                                                                                                                                         12 TONKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQK
                                                                                                                                                                                                                                                                                                                                               Gaps
GO; GO:0006400; P:ATP catabolism; IDA.
GO; GO:000186; P:C-protein coupled receptor protein signalin. ..;
GO; GO:00030186; P:platelet activation; IDA.
GO; GO:0009181; P:purine ribonucleoside diphosphate catabolism; IDA.
PFIAM; PRO1150; GDA.
PROSITE: PS01238; ADA.
SEQUENCE S10 AA; S7176 MW; E77BB644AE1413A0 CRC64;
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Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
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                                                                                                                                                                                                                                                                              Length 510;
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Last annotation update)
                                                                                                                                                                                                                                                                    76.3%; Score 1830; DB 2; 76.2%; Pred. No. 3.8e-133; iive 45; Mismatches 56;
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180
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G., Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C., Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S., Krzywinski M.I., Skalska U., Smailus D.E., Schnerch A., Schein J.E., Jones S.J., Marra M.A., "Genes S.J., Marra M.A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                173 VPYETNNQETFGALDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61 VPYETNNOETFGALDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DOALWOKLAKDIQVASNBILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DQALWQKLAKDI QVASNEI LRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEI QG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              293 IGNYQQCHQSILELFNTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IGNYQQCHQSILELFNTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 MESEBLADRVLDVVERSLSNYPFDFQGARIIIGQEBGAYGWITINYLLGKFSQKTRWFSI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QEKVTEMMKKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               113 MESEELADRVLDVVERSLSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSI
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Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Rattus
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16-0CT-2004 (Rel. 40, Last sequence update)
25-0CT-2004 (Rel. 45, Last annotation update)
Ectoror-leoside triphosphate diphosphohydrolase 1 (EC 3.6.1.5)
(NTPDasel) (Ecto-ATP diphosphohydrolase) (ATPDase) (Lymphoid activation antigen)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 372;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Indels
                                                                                                                                                                                                                                                                                                       Liscuence...;
Straubberg R.;
Straubberg R.;
Submitted (MAR-2003) to the EMBL/GenBank/DDBJ databases.
EMBL; BC047664; ARH47664.1; -.
GO: GO:0016787; F:hydrolase activity; IEA.
InterPro; IPR000407; GDAL CD39_NTPase.
Pfam; PF01150; GDAL CD39; 1.
PROSITE; PS01238; GDAL CD39 NTPASE; 1.
PROSITE; PS01238; GDAL CD39 NTPASE; 1.
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STRAIN=Sprague-Dawley; TISSUE=Brain, and Hippocampus;
PubMed=9221928;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               413 FIGKIQGSDAGWTLGYMLNLTNMIPAEQPLSTPLSHST 450
                                                                                                                                                                                                      Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2.2e-132;
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Brain Res. Mol. Brain Res. 47:295-302(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               75.8%; Score 1818;
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Rattus norvegicus (Rat).
                                                                                                                                                                              sequences."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Best Local Similarity 100.
Matches 338; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STANDARD;
                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
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                                                                                                                                                                              and mouse cDNA
                                                                                                                                                                                                                                                                                               TISSUE=Lung
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
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STANDARD;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mammalia; Euther
NCBI_TaxID=9823;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sus scrofa (Piq)
             192
                                          217
                                                                           252
                                                                                                         277
                                                                                                                                          312
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     98 TDEIAAYLAECMKMSTERIPASKQHQTPVYLGATAGMRLLRMESKQSADEVLAAVSRSLK 157
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                                                                                                                                                                                                                                   12 :TONKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQK
          STRAIN=Wistar; TISSUE=Cochlea; MEDLINE=20050856; PubMed=10581401; DOI=10.1016/S0169-328X(99)00244-2; Vlajkovic S.M., Houeley G.D., Greenwood D., Thorne P.R.; Evidence for alternative splicing of ecto-ATPase associated with termination of purinergic transmission."; Brain Res. Mol. Brain Res. 73:85-92(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                          PFGM; PF01150; GDA1 CD39; 1.
PROSITE; PS01238; GDA1 CD39 NTPASE; 1.
Antigen; Calcium; Glycoprotein; Hydrolase; Magnesium; Transmembrane.
DOMAIN
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                                                                                                                                                                                                                                                                                                                                                                                                                         SIMILARĪTY: Belongs to the GDA1 / CD39 NTPase family.
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                                                                                                                            SEQUENCE OF 432-511 FROM N.A.
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STQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEI 251
                                       LRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTSY
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-!- FUNCTION: In the nervous system, could hydrolyze ATP and other nucleotides to regulate purinergic neurotransmission. Could also be implicated in the prevention of platelet aggregation. Hydrolyzes ATP and ADP equally well.

-!- GATALYTIC ACTIVITY: ATP + 2 H(2)0 = AMP + 2 phosphate.

-!- CORACTOR: Requires calcium and magnesium (By similarity).

-!- SUBCELLULAR LOCATION: Integral membrane protein (Potential).

-!- TISSUE SPECIFICITY: Highest expression found in vascular endochhelium, smooth muscle, spleen and lung.

-!- PTM: Cleaved into two polypeptides that seem to stay together by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Distribution, cloning, and characterization of porcine nucleoside
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16-OCT-2001 (Rel. 40, Last sequence update)
05-UTD-2004 (Rel. 44, Last annotation update)
Ectonucleoside triphosphate diphosphohydrolase 1 (EC 3.6.1.5)
activation antigen) (Ecto-apyrase) (ATPDase) (Lymphoid cell activation antigen) (Ecto-apyrase) (CD39 antigen).
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TSSUB=Abortic endothelium;
MEDLINE=20255090; PubMed=10866813;
Lemmens R., Vanduffel L., Kittel A., Beaudoin A.R., Benrezzak O.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Euteleostomi;
Sus.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                noncovalent interactions. -- -- SIMILARITY: Belongs to the GDA1 / CD39 NTPase family.
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Mammalia, Eutheria, Cetartiodactyla, Suina, Suidae,
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Eur. J. Biochem. 267:4106-4114(2000)
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TISSUE=Aorta;
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es 309;
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              (See http://www.isb-sib.ch/announce/
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InterPro; IPR004047; GDA1_CD39_NTPase.
Pfam: PF01150; GDA1_CD39_1.
PROSITE; PS01238; GDA1_CD39_NTPASE; 1.
Antigen; Calcium; Direct protein sequencing; Glycoprotein; Hydrolase;
Magnesium; Transmembrane.
Ectonucleoside triphosphate
CHAIN 1 510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                            diphosphohydrolase 1.
Ectonucleoside triphosphate
diphosphohydrolase 1.27 kDa subunit.
Ectonucleoside triphosphate
diphosphohydrolase 1.54 kDa subunit.
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 and
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                                                                                                                                                                                                                                                                   Extracellular (Potential). Potential.
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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on itse by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial
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InterPro; IPR00407; GDA1_CD39_NTPase.
Pfam; PF01150; GDA1_CD39; 1.
PROSITE; PS01238; GDA1_CD39_NTPASE; 1.
Antigen; Calcium; Direct protein sequencing; Glycoprotein; Hydrolase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
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                                                                                                                                                                                                            Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
Bovinae; Bos.
                                                                                                  cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             nucleotides to regulate purinergic neurotransmission. Could a be implicated in the prevention of platelet aggregation. Hydrolyzes ATP and ADP equally well.

-!- CATALYTIC ACTIVITY: ATP + 2 H(2)0 = AMP + 2 phosphate.
-!- COFACTOR: Requires calcium and magnesium.
-!- SUBCELLULAR LOCATION: Integral membrane protein (Potential).
-!- SUMILARITY: Belongs to the GDA1 / CD39 NTPase family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE=97115858; PubMed=8955160; DOI=10.1074/jbc.271.51.33116; Kaczmarek E., Koziak K., Sevigny J., Slegel J.B., Anrather J., Beaudoin A.R., Bach F.H., Robson S.C.; Illustration and characterization of CD39/vascular ATP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (Potential).
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16-OCT-2001 (Rel. 40, Last sequence update)
05-UTL-2004 (Rel. 44, Last amnotation update)
Ectonucleoside triphosphate diphosphohydrolase 1 (EC 3.6.1.5)
(NTPDasel) (Ecto-ATP diphosphohydrolase) (ATPDase) (Lymphoid activation antigen) (CD39 antigen) (Ecto-apyrase).
Name=ENTPD1; Synonyms=CD39;
Bos taurus (Bovine)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Biol. Chem. 271:33116-33122(1996).
- FUNCTION: In the nervous system, could hydrolyze ATP and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE OF 97-103; 123-133; 136-140; 145-168 AND 459-471.
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INV -> CGF (in Ref. 2).
INV -> CGF (in Ref. 2).
W, 20FE98F27BGDZF96 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                              TISSUE=Aortic endothelium;
Chang A.S., Garcia R.L., Chang S.M., Schilling W.P.;
Submitted (MAY-1997) to the EMBL/GenBank/DDBJ databases.
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Extracellular (Potential).
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69.8%; Pred. No. 2.4e-122;
ive 64; Mismatches 65;
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Magnesium; Transmembrane.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                       the RIKEN Genome Exploration Research Group Phase I & II Team; "Analysis of the mouse transcriptome based on functional annotation of 60,770 full-length oDNAs."
                                                                                                                             SEQUENCE FROM N.A.
STRAIN=C57BL/6J; TISSUE-Skin;
MEDLINE=99279253; FubMed=10349636; DOI=10.1016/S0076-6879(99)03004-9;
Carninci P., Hayashizaki Y.;
"High-efficiency full-length cDNA cloning.";
Meth. Enzymol. 303:19-44(1999).
                                                                                                                                                                                     STQVTFVPQNQT1ESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEI
                       VNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEBLADRVLDVVERSLS
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STRAIN=CS7BL/60; TISSUE=Skin;
BEDLINE=20499374; PubMed=11042159; DOI=10.1101/gr.145100;
Carninci P., Shibata Y., Hayatsu N., Sugahara Y., Shibata K., Itoh I
Konno H., Okazaki Y., Muramatsu M., Hayashizaki Y.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-MAR-2003 (TrEMBLrel. 23, Created)
01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
Mus musculus 10 days neonate skin cDNA, RIKEN full-length enriched library, clone:4732419M16 product:ectonucleoside triphosphate diphosphohydrolase 1, full insert sequence. (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus
NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RIKEN FANTOM Consortium; "Functional annotation of a full-length mouse cDNA collection."; Nature 409:685-690(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=21085660; PubMed=11217851; DOI=10.1038/35055500;
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STRAIN=C57BL/6J, TISSUE=Skin;
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STRAIN=C57BL/6J; TISSUE=Skin;
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Nature 420:563-573(2002).
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Mus musculus (Mouse)
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RESIDENCE FROW N.A.

RESIDENCE FROW N.A.

RA Adachi J., Alzawa K., Akimura T., Arakawa T., Bono H., Carninci P.,

RA Adachi J., Puruno M., Hanagaki T., Hara A., Hashizane W.,

RA Hayashida K., Hayatsu N., Hiramcto K., Hiracka T., Hiracane T.,

RA Hayashida K., Hayatsu N., Hiramcto K., Kouda M.,

RA Katch H., Kawai J., Kojima Y., Kondo S., Kouda M., Koya S.,

RA Katch H., Kawai T., Myazaki A., Mwrata M., Nowlam T.,

RA Katch H., Sakai C., Sakai K., Sakazume N., Sano H.,

RA Satto R., Saltoh H., Sakai C., Sakai K., Sakazume N., Sano H.,

RA Sasaki D., Shibata K., Shinagawa A., Shiraki T., Sogabe Y., Tagami M.,

RA Tomaru A., Toya T., Yasunishi A., Muramatsu M., Hayashizaki Y.,

RA Tomaru A., Toya T., Yasunishi A., Muramatsu M., Hayashizaki Y.,

RA Tomaru A., Toya T., Yasunishi A., Muramatsu M., Hayashizaki Y.,

RA Tomaru A., Toya T., Yasunishi A., Muramatsu M., Hayashizaki Y.,

RD GO; GO:0005605; C:basal lamina, IDA.

BR GO; GO:00016021; C:integral to membrane; TAS.

GO; GO:000180; P:ATP catabolism; IDA.

GO; GO:000180; P:ATP catabolism; IDA.

GO; GO:000180; P:ATP catabolism; IDA.

GO; GO:000181; P:purine ribonucleoside diphosphate catabolism; IDA.

R Pfam PPO1150; GDAL_CD39 P. Namara.

R Pfam PPO1150; CDAL CD39 P. Namara.

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                                                                                                                                                                                                                                         MEDLINE=CSTBL/61; TISSUE=Skin; MEDLINE=CSTBL/61; TISSUE=Skin; MEDLINE=CSTBL/61; TISSUE=Skin; MEDLINE=CSTBL/61; TISSUE=Skin; MEDLINE=20530913; PubMed=11076861; DOI=10.1101/GT.152600; MEDLINE=20530913; PubMed=11076861; Structure T., Saskin N., Techin N., Sumi N., Sishin K., Kitsunai T., Kathine T., Harada A., Sumino N., Ishii Y., Nakamura S., Hazama M., Nishine T., Harada A., Pujiwake S., Inoue K., Togawa Y., Izawa M., Ohara E., Wathinki M., Yoneda Y., Ishikawa T., Ozawa K., Tanaka T., Matsuura S., Kawai J., Yoneda Y., Ishikawa T., Ozawa K., Tanaka T., Matsuura S., Kawai J., RKEN integrated Sequence analysis (RISA) system-384 format sequencing pipeline with 384 multicapillary sequencer.";
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65.6%; Pred. No. 2e-113;
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Best Local Similarity 74.54
Matches 289; Conservative
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Klausner R.D., Colling F.S., Wagner L.H., Derge J.G.,
Alausner R.D., Colling F.S., Wagner L., Shenmen C.M., Schuler G.D.,
Altechul S.P., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
Altechul S.P., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
Altechul S.P., Jordan H., Moore T., Max S.I., Wang J., Haidh F.,
Batchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
A Brownstein M.J., Usdin T.B., Tochiyuki S., Carninci P., Prange C.,
A Brownstein M.J., Woklan T.B., Tochiyuki S., Carninci P., Prange C.,
A Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
A Bosak S.A., McKernan D.M., Sodergren E.J., Lu X., Glabs R.A.,
A Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Glabs R.A.,
A Halton E., Ketteman M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
Mhiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
A Hakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
A Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,
A Jones S.J., Marra M.A.,
A Mondes S.J., Marra M.A.,
A Marra M.A., Salska U., Smailus D.E., Schmerch A., Schein J.E.,
A Mondes S.J., Marra M.A.,
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                             TQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEIL 252
                                                    337 TYSHCSFNGVFQPSLDGTFGAFSAXYFVANFLNLTNEQMSLDKVKETVERHCSRPWDEVK 396
                                                                                                                                                                                                                                                                                                                  313 PYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEEIK
                                                                                                                RDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFE1QG1GNYQQCHQS1LELFNTSYC
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Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Amphibia, Batrachia, Anura, Mesobatrachia, Pipoidea, Pipidae,
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Klein S.L., Strausberg R.L., Wagner L., Pontius J., Clifton S.W.,
Richardson P.;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Created)
Last sequence update)
Last annotation update)
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Klein S., Gerhard D.S.;
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Name=MGC80631;
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Tatasborg R.L.; Peingold B.A.; Grouse L.H.; Derge J.G.;

Ratasborg R.L.; Peingold B.A.; Grouse L.H.; Derge J.G.;

Ratasborg R.L.; Peingold B.A.; Grouse L.H.; Derge J.G.;

Ratasporg R.L.; Peingold B.A.; Grouse L.H.; Derge J.G.;

Rationar R.D.; Collins F.S.; Wagner L.; Shenmen C.M.; Schuler G.D.;

Raticchul S.F.; Jordan H.; Moore T.; Max S.I.; Wang J.; Haich F.;

Ratichenko L.; Marusina K.F.; Farmer A.A.; Rubin G.M.; Hong L.;

Raplecon M.; Soares M.B.; Bonaldo M.F.; Casavant T.L.; Scheetz T.E.;

Raplecon M.J.; Usdin T.B.; Toshiyuki S.; Carninci P.; Prange C.;

Rana S.S.; Loquellano N.A.; Peters G.J.; Abramson R.D.; Mullahy S.J.;

Robar S.A.; McEwan P.J.; McKernan K.J.; Malek J.A.; Gunaratne P.H.;

Richards S., Worley K.C.; Hale S.; Garcia A.M.; Gay L.J.; Hulyk S.W.;

Richards S., Worley K.C.; Hale S.; Garcia A.M.; Gay L.J.; Hulyk S.W.;

Richards S., Worley K.C.; Hale S.; Garcia A.M.; Gibs R.A.;

Ration M.; Madan A.; Young A.C.; Shevchenko Y.; Bouffard G.G.;

Raticle R.W.; Touchman J.W.; Green E.D.; Dickson M.C.;

Rodriguez A.C.; Grimwood J.; Schmutz J.; Myers R.M.; Butterfield Y.S.;

Rywinski M.I.; Skalska U.; Smailus D.E.; Schnerch A.; Schein J.E.;

R. Generation and initial analysis of more than 15,000 full-length human
300 FCSKSWEBIKTSYPSVKEKYLSEYCFSGAYILS-LLQGYNFTGSSWEQIHFMGKIKDSNA 358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                98
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         73 NEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              YPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGAS
                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota, Netazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Amphibia, Batrachia, Anura, Mesobatrachia, Pipoidea, Pipidae,
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                                                                                                                                                                                                                                                                                                                                                                              Xenopus tropicalis (Western clawed frog) (Silurana tropicalis)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           60.5%; Score 1450; DB 2; Length 508; 60.2%; Pred. No. 1e-103; ive 75; Mismatches 97; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Klein S., Gerhard D.S.; Submitted (JUL-2004) to the EMBL/GenBank/DDBJ databases. Submitted (JUL-2004) to the EMBL/GenBank/DDBJ databases. EMBL; BCO16621; AAH/GE02.11. AAH/GE02.11. AAH/GE02.11. AAH/GE02.11. AAH/GE02.11. BCO101679; EMJ CD39_NTPase. InterPro; IFR000407; GDA1_CD39_NTPase. PROSITE; PS01238; GDA1_CD39_NTPASE; 1. SEQUENCE 508 AA; 57322 MW; 12CAEAC05BEABDEB CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sci. U.S.A. 99:16899-16903(2002).
                                                                                                                                                                                                                                                                                           Last sequence update)
Last annotation update)
                                                                                                                                                                                                                           508 AA
                                                                                             359 GWTLGYMLNLTNMIPAEQPLSPPLPHST 386
                                                                GWTLGYMLNLTNMIPAEOPLSTPLSHST 450
                                                                                                                                                                                                                                                                       Created)
                                                                                                                                                                                                                           PRT;
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                                                                                                                                                                                                                           PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                Entpdl-prov protein.
Name=entpdl-prov;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=8364;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TISSUE=Embryo;
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25-OCT-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                              Xenopodinae;
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Best Local 9
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LGYMLNLTNMIPAEQPLSTPLSH 448
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Bukaryota; Metazoa; Chordata;

Mammalla; Butheria; Rodentia;

MCBL_TaxID=10090;

[1]
                                                                                                                                                                              Best Local Similarity 56.9
Matches 252; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRELIMINARY;
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                                                                                                                                                                                                                                     PYSQCAFNGIFLPPLQGDFGAFSAFYFVNKFLNLTSEKVSQEKVTENMKKFCAQPWEEIK 372
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                                                                                                                                                                     TOVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNBIL 252
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                                                                                                                                                                                                                                                                                                 133 YPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGAS
                                                                                                                             73 NEIGIYLTDCMERAREVIPRSOHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSN
                                                                                             QNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQKV
                                                                                                       Zgc:Io word lifembirel. 28, Last annotation update)
Zgc:Io word lifembirel. 28, Last annotation update)
Name=zgc:100815;
Brachydanio rerio (Zebrafish) (Danio rerio)
Brachydanio rerio (Zebrafish) (Danio rerio)
Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes; Cyprinidae; Danio.
NCBL_TaxID=7955;
                                                                               Gaps
                                                                               .;
;
                                                                508;
                                                              59.1%; Score 1418; DB 2; Length 5 59.1%; Pred. No. 3.1e-101; ive 72; Mismatches 105; Indels
  databases
   Submitted (JUN-2004) to the EMBL/GenBank/DDBJ databases EMBL, BC071267; AAH71267.1; -
EMBL, BC071267; AAH71267.1; -
InterPro; IPR000407; GDA1_CD39_NTPase.
Pfam, PP01150; GDA1_CD39; 1.
PROSTIE; PS01128; GDA1_CD39; NTPASE; 1.
SEQUENCE 508 AA; 57049 MW; BD205818A06C523B CRC64;
 (JUN-2004) to the EMBL/GenBank/DDBJ
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25-0CT-2004 (TrEMBLrel. 28,
25-0CT-2004 (TrEMBLrel. 28,
                                                                                                                                                                                                                                                                                                                          TNWIPAEOPLSTPLSHST
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                                                                                  259; Conservative
                                                                         Similarity
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Q6DC46;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       257
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Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
Kraywinski M.I., Skalska J., Schmutz J., Myers R.M., Butterfield Y.S.,
Krzywinski M.I., Skalska J., Smailus D.E., Schnerch A., Schein J.E.,
Jones S.J., Marra M.A.;
Meneration and initial analysis of more than 15,000 full-length human
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          366 QPWBEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   70 OKVNEIGIYLIDCMERAREVIPRSQHOETPVYLGATAGWRLLRMESEELADRVLDVVERS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      10 SSTONKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFV
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Sciurognathi; Muridae; Murinae; Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     05-JUL-2004 (TrEMBLrel. 27, Created)
05-JUL-2004 (TrEMBLrel. 27, Last sequence update)
05-JUL-2004 (TrEMBLrel. 27, Last annotation update)
Nucleoside triphosphate diphosphohydrolase-8 (BC 3.6.1.5).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              104; Indels
                                                                                                                                                                                                                                                                                                                    Director MGC Project;
Director MGC Project;
Submitted (UUL-2004) to the EMBL/GenBank/DDBJ databases.
EMBL, BC076240; AAH78440.1;
GO, GO:0016787; F:hydrolase activity; IEA.
InterPro; IPR00407; GDA1_CD39_NTPase.
PFam; PF01150; GDA1_CD39_NTPASE; 1.
PROSITE, PS011289; GDA1_CD39_NTPASE; 1.
SEQUENCE 492_AA; 55507 WW; B789AB6DFC6A032B CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             54.6%; Score 1308.5; DB 2;
56.9%; Pred. No. 8.9e-93;
ive 64; Mismatches 104;
                                                                                                                                                                                                and mouse cDNA sequences.";
Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002)
                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
STRAIN-Singapore local strain; TISSUE-Embryo;
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diphosphohydrolase.";
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                                                                                                                                                                                                                                                 PFDFQGARIITGQEEGAYGWITINYLLG---KFSQKTRWFSIVPYETNNQETFGALDLGG 190
                                                                                                                                                                                                                                                                                          ELFNTSYCP-YSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKF 363
                                                                                                                                                                                                                                                                                                                                                                                                                                                   CAQPWEEIKTSYAGVKEKYLSEYCFSGTYILSLILLQGYHFTADSWEHIHFIGKIQGSDAG 423
                                                                                                                                                                                                                                                                                                                                                                                                                                                              14 NKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQKVN 73
                                                                                                                                                                                                     QVASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSIL
                                                                                                                                                                                                                                                                                                                                                                                                                           324 SLENFSSCKGOKDCAFNGIYOPPVHGQFYAFSNFYYTFHFLNITSRQ-SLNTVNDTVWKF
                                                                                                                                                                                                                                                                                                                       ASTQVTFVPQNQTIESPDNALQPRLYGKDYNVYTHSFLCYGKDQALWQKLAK-----DI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Archosauria, Aves, Neognathae, Galliformes, Phasianidae, Phasianinae,
       STRAIN-C57BL/6; TISSUE-Liver;
Bigonnesse F., Levesque S.A., Kukulski F., Lecka J., Robson S.C.,
Brennandes M.J.G., Sevigny J.;
Submitted (MG-2003) to the EMBL/GenBank/DDBJ databases.
EMBL; AN364442; AAQ84519.1; ---
GO; GO:0016780; F:apyrase activity; IEA.
GO; GO:0016780; F:hydrolase activity; IEA.
InterPro; IPR00407; GDAL_CD39_NTPase.
Pfam; PF01150; GDA1_CD39_NTPASE; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       16-0CT-2001 (Rel. 40, Created)
16-0CT-2001 (Rel. 40, Last sequence update)
05-UUJ-2004 (Rel. 44, Last annocation update)
65-UUJ-2004 (Rel. 44, Last annocation update)
(NTPDassel) (Ecto-ATP diphosphohydrolase 1 (EC 3.6.1.5)
(NTPDassel) (Ecto-ATP diphosphohydrolase) (ATPDase)
activation antigen) (Ecto-apyrase) (CD39 antigen).
Name=ENTPD1; Synonyms=CD39;
                                                                                                                                                                     22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TISSUR=Oviduct;
MRDILINE=982910108; PubMed=9612655; DOI=10.1074/jbc.273.26.16043;
Nagy A.K., Knowles A.F., Nagami G.T.:
"Molecular cloning of the chicken oviduct ecto-ATP-
                                                                                                                                              43.6%; Score 1046; DB 2; Length 497; ilarity 47.9%; Pred. No. 1.9e-72; Conservative 75; Mismatches 131; Indels 2:
                                                                                                                            497 AA; 54650 MW; 00DE822B6EEB1BDF CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WTLGYMLNLTNMIPAEQP 441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         442 WILGEMINLIGMIPAEAP 459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gallus gallus (Chicken)
                                                                                                                                                           Similarity
FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=9031;
                                                                                                                                                                     210;
                                                                                                                  Hydrolase.
SEQUENCE
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Pfam; PF01150; GDA1 CD39; 1.
PROSITE; PS01238; GDA1 CD39 NTPASE; 1.
Antigen; Calcium; Direct protein sequencing; Glycoprotein; Hydrolase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          17 LPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQKVNEIG
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                                                                                                                                                                                                                          J. BIOJ. Chem. 272:23645-23652(1997).

-! FUNCTION: In the nervous system, could hydrolyze ATP and other nucleotides to regulate purinergic neurotransmission. Could also be implicated in the prevention of platelet aggregation. Hydrolyzes ATP and ADP equally well (By similarity).

-! CATALYTIC ACTIVITY: ATP + 2 H(2)0 = AMP + 2 phosphate.

-! COPACTOR: Requires calcium and magnesium (By similarity).

-! SUBUNIT: Homodimer; disulfide-linked (Probable).

-! SUBCELGUIAR LOCATION: Integral membrane protein (Potential).

-! FTM: N-glycosylated.
                                                                                                                          Lewis-Carl S., Kirley T.L.; "Immunolocalization of the ecto-ATPase and ecto-apyrase in chicken gizzated and stomach. Purification and N-terminal sequence of the stomach ecto-apyrase.";
                                                                             TISSUE-Scomach;
MEDLINE-97442428; PubMed-9295305; DOI=10.1074/jbc.272.38.23645;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             C -> W (in Ref. 2).
I -> G (in Ref. 1; AA sequence)
F14FF4C3AA2F3603 CRC64;
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Potential.
Potential.
N-tinked (GlCNAC. .) (Potential).
N-linked (GlCNAC. .) (Potential).
N-linked (GlCNAC. .) (Potential).
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N-linked (GlCNAC. .) (Potential).
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Biol. Chem. 273:16043-16049(1998).
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54034 MW;
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Matches 196;
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                                                                                                                                                                                                                       311 YCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEE 370
                                                                                                                                                                                                                                                                                                                                                                                             CGANRICGFDGVYQPPVRGQFFAFFAGFYYTFSFLNLIGQQ-SLSHVNATWADFCNKNWSE 385
                                                                                                                                                                      ILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQOFEIQGIGNYQQCHQSILELFNTS 310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  371 IKTSYAGVKEKYLSEYCFSGTYILSLILQGYHFTADSWEHIHFIGKIQGSDAGWTLGYML 430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   386 LVETFPQNKE-HLHTYCVVGLYILTLLVDGYKFDEHTWSNIHFSQKAGNADIGWTLGFML 444
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QVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQA----LWQKLAKDIQVASNE
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01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-DEC-2003 (TrEMBLrel. 19, Last sequence update)
Ecto-ATP-diphósphohydrolase (EC 3.6.1.5).
Gallus gallus (Chicken).
Ebkaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Archosauría; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TISSOLELINET:
MEDLINE=21992040; PubMed=11985621;
Knowles A.F., Nagy A.K., Strobel R.S., Wu-Weis M.;
Knowles A.F., Nagy A.K., Strobel R.S., Wu-Weis M.;
Knowles A.F., Nagy A.K., Strobel R.S., Wu-Weis M.;
Knowles A.F., Nagy A.K., Strobel R.S., Wu-Weis M.;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        493 AA; 54063 MW; 0380449E86167B70 CRC64;
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Soluble CD39; solCD39; human; apyrase activity; platelet activation; unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; preeclampsia; embolism; platelet-associated ischaemic disorder; thrombotic disorder; reocclusion; coagulopathy; deep venous thrombosis; DVT; pulmonary embolism; PE; thrombus formation; occlusion; stenosis; angiogenesis; antianginal; cerebroprotective; antiarteriosclerotic; anticoagulant; cardiant; vasotropic; thrombolytic; inhibitor; interleukin 2; IL2.
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/label= Leader_peptide
/note= "Derived from human interleukin 2 (hIL2)"
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Adr87821
Adr860221
Adb60221
Adb73345
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Adb73345
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/note= "Cleavage site of leader sequence"
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/note= "Human soluble CD39 protein"
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Maliszewski CR,
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Peptide
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The present sequence is the fusion protein construct, pIL2LTrim3. This construct comprises of the leader peptide from human interleukin 2 (hIL2) and soluble CD39 (solD39) protein region, having apyrase activity.

CC soluble CD39 is constructed by removing the N- and C-terminal transmembrane domains. It retains the capacity to metabolise ATP and ADP transmembrane concentrations and the ability to block and reverse ADP- contraction and recruitment, including platelet aggregation. Soluble CD39 polypeptides are useful for inhibiting aggregation. Soluble CD39 polypeptides are useful for inhibiting approaches in its useful for the treatment of unstable anglia, stroke, myocardial infarction, coronary artery disease or injury, embolism, camporaled ischaemic disorders including lung, coronary and cerebral aspeciated ischaemic disorders including coronary, peripheral and cerebral artery thrombosis, intracardiac and venous thrombosis, cogulopathy, deep venous thrombosis, intracardiac and venous thrombosis, cransient ischaemic attack. Soluble CD39 is also useful for preventing transient ischaemic attack. Soluble CD39 is also useful for preventing crestenosis of blood vessels or stroke
inhibiting angiogenesis and treating unstable angina, myocardial infarction, stroke, coronary artery disease or injury.
                                                                                           Claim 6; Page 113-114; 122pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 474 AA;
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ö Gaps ÷ 0 Length 474; 0; Indels 100.0%; Score 2398; DB 3; 100.0%; Pred. No. 2.6e-237; tive 0; Mismatches 0; Local Similarity 100. Les 450; Conservative Query Match Matches

264 RVLDVVERSLSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQ 204 9 84 241 AKDIQVASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCH 1 ASTKKTQLISSTQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRV 25 ASTKKTQLTSSTQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRV ETFGALDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKL KGPGISKFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELAD RVLDVVERSLSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQ 61 82 121 145 181 ద ठ 셤 ð 유 ò ò

QSILBLFNTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMM 360 KKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYILSLILQGYHFTADSWEHIHFIGKIQGS 301

265

g ò g 8

420

421 DAGWTLGYMLNLTNMIPAEOPLSTPLSHST 450

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AAY70900 standard; protein; 474 17-AUG-2000 (first entry) AAY70900

Protein encoded by Trim 3 construct.

unstable angina, myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vacular occlusion; preeclampsia; embolism; platelet-associated ischaemic disorder; lung ischaemia; thrombolytic; cerebral ischaemia; thrombotic disorder; coronary artery thrombosis; peripheral artery thrombosis; intracardiac thrombosis; peripheral artery thrombosis; coagulopathy; deep venous thrombosis; ps; pulmonary embolism; transient ischaemic attack; thrombus formation; occlusion; reocclusion; stenosis; restenosis; antianginal; cardiant; cerebroprotective; antiarteriosclerotic; vasotropic; anticoagulant; coronary ischaemia; vascular occlusion; pll2Trim3 variant. Soluble CD39; ADP-induced platelet activation; platelet aggregation;

36. .474 /note= "Soluble portion of CD39" Location/Qualifiers Cleavage-site Protein

sapiens.

Homo

Synthetic.

WO200023094-A2

27-APR-2000

99WO-US023641 13-OCT-1999; 98US-0104585P. 98US-0107466P. 99US-0149010P. 16-OCT-1998; 06-NOV-1998; 13-AUG-1999; (IMMV) IMMUNEX CORP. (CORR) CORNELL RES FOUND INC.

Marcus AJ; Gayle RB, Maliszewski CR,

WPI; 2000-339518/29.

Inhibiting platelet activation and recruitment, useful for treating a mammal suffering from unstable angina, myocardial infarction, stroke, coronary artery disease or injury, comprises administering soluble CD39 polypeptides

Example 11; Page 113-114; 118pp; English.

The present sequence is the protein encoded by Trim3 construct. pIL2Trim3 constructed by removing the human IL2 residues from solCD39 (variant was constructed by removing the human IL2 residues from solCD39 fusion construct. Fusion of I2 amino acids from the N-terminus of mature human IL2 to the solCD39 coding region results in high levels of both expression and activity in the supernatants of transfected cells. SolCD39 is used in the treatment of unstable angina, myocardial infarction.

CC stroke, coronary artery disease or injury, atherosolerosis, peripheral vascular occlusion, precelampsia, enbolism, platelet-associated ischaemic disorder including lung ischaemia, coronary lactbeamia and cerebral cebral artery thrombosis, intracardiac thrombosis, peripheral artery thrombosis, thrombosis, thrombosis, cerebral artery thrombosis, thrombosis, thrombosis, cerebral artery sembolism (PB), transient ischaemic attack.

CC soluble CD39 is also useful for preventing thrombus formation or reformation, reocclusion, stenosis or restenosis of blood

Sequence 474 AA;

Gaps ö 100.0%; Score 2398; DB 3; Length 474; 100.0%; Pred. No. 2.6e-237; ive 0; Mismatches 0; Indels 0; 450; Conservative Local Similarity Query Match Matches

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61 KGPGISKFVOKVNBIGIYLTDCMERAREVIPRSQHQETPVVLGATAGMRLLRWESEELAD 120

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Claim
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                                                                            264
                                                                                                                                                      384
                                                                                                                                                                                            444
                             ETFGALDLGGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKL
                                                                                                          AKDIQVASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCH
                                                                                                                                            KGPGISKFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELAD
                                                         ETFGALDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKL
                                                                                              AKDIQVASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCH
                                                                                                                                   QSILELFNTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMM
                                                                                                                                                                        KKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGS
                                                                                                                                                                                                                                                                                                                                         Human soluble CD39 and IL2 N-terminus comprising fusion construct.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note= "Human soluble CD39 protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1. .15
/label= Mature human_interleukin_
/note= "N-terminal region"
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                                                                                                                                                                                                              DAGWILGYMLNLINMIPAEOPLSTPLSHST 450
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                                                                                                                                                                                                                                                                                                                      (first entry)
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N-PSDB; AAD00206.
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Synthetic.
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13-AUG-1999;
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The present sequence is a fusion construct, comprising the N-terminal amino acids of mature human interleukin2 (IL2) and soluble CD39 (solCD39) cregion, that has apyrase activity. This results in high levels of solCD39 cregion, that has apyrase activity. This results in high levels of solCD39 creating the capacity to metabolise ATP and ADP at relavant concentrations and the ability to metabolise ATP and ADP at relavant concentrations and the ability to block and reverse ADP-induced platelet activation and recruitment, including platelet aggregation. Soluble CD39 polypeptides crecruitment, including platelet aggregation is useful for inhibiting analysements. It is useful for the treatment of unstable angina, myocardial infarction, stroke, coronary artery disease or injury, atherosclerosis, peripheral vascular occlusion, precelampsia, connary and cerebral ischaemic dischaemic disorders including coronary, peripheral and cerebral actery thrombosis, intracardiac and venous thrombosis, coagulopathy, deep venous thrombosis (DVT), pulmonary embolism (PE) and transient ischaemic attack. Soluble CD39 is also useful for preventing thrombus formation or reformation, occlusion, reocclusion, stenosis or restenosis of blood vessels or stroke
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                125 RVLDVVERSLSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQ
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New soluble CD39 polypeptides having apyrase activity, useful for inhibiting angiogenesis and treating unstable angina, myocardial infarction, stroke, coronary artery disease or injury.
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Pred. No. 4.9e-237
1; Mismatches 0
                                                                                                                                6a; Page 95-97; 122pp; English.
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Matches 449; Conservative
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The present sequence is the protein enocoded by a fusion construct of sol(soluble)CD39 having apyrase activity. Fusion of 12 amino acids from the N-terminus of mature human II2 to the solCD39 coding region results in high levels of mature human II2 to the solCD39 coding region results in high levels of both expression and activity in the supernatants of transfected cells. This is used in the treatment of unstable angina, atherosclerosis, peripheral vaccionary artery disease or injury, atherosclerosis, peripheral accolnary occlusion, precelampsia, embolism, platelet-associated ischaemic disorder including lung ischaemia, coronary ischaemia and cerebral ischaemia, thrombosis, intracardiac thrombosis, peripheral artery thrombosis, varous thrombosis, intracardiac thrombosis, pripheral artery thrombosis (varous thrombosis, thrombosis, thrombosis, transient ischaemic attack. Solubie CD39 is also useful for preventing thrombus formation or reformation, occlusion, reocclusion, stenosis or
        Soluble CD39; ADP-induced platelet activation; platelet aggregation; unstable angina; myocardial infarction; stroke; oconary artery disease; atheroselerosis; peripheral vascular occlusion; preeclampsia; embolism; platelet-associated ischaemic disorder; lung ischaemia; thrombolytic; cerebral ischaemia; thrombotic disorder; coronary artery thrombolytic; perebral artery thrombosis; intracardiac thrombosis; venous thrombosis; peripheral artery thrombosis; coagulopathy; deep vanous thrombosis; peripheral artery thrombosis; coagulopathy; deep vanous thrombosis; py; pulmonary embolism; transient ischaemic attack; thrombos formation; ceclusion; recoclusion; etenosis; restenosis; antianginal; cardiant; cerebroprotective; antiarteriosclerotic; vasotropic; anticoagulant; coronary ischaemia; vascular occlusion.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Inhibiting platelet activation and recruitment, useful for treating a mammal suffering from unstable angina, myocardial infarction, stroke, coronary artery disease or injury, comprises administering soluble CD39 polypeptides:
                                                                                                                                                                                                                                                                                                                                                                                                       16. .454
/note= "Human soluble CD39 protein"
                                                                                                                                                                                                                                                                                                                                                 1. .15
/label= Mature_human_interleukin_2
                                                                                                                                                                                                                                                                                                                                                                                    /note= "N-terminal region"
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98US-0107466P.
99US-0149010P.
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(CORR ) CORNELL RES FOUND INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99WO-US023641
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N-PSDB; AAD00201.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WO200023094-A2
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06-NOV-1998;
13-AUG-1999;
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                                                                                                                                                                                                                                                                  варіепв.
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                                                                                                                                                                                                                                                                                     Synthetic
                                                                                                                                                                                                                                                                                                                                               Protein
                                                                                                                                                                                                                                                                                                                                                                                                           Protein
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soluble CD39; solCD39; human; apyrase activity; platelet activation; unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; preeclampsia; embolism; platelet-associated ischemic disorder; thrombotic disorder; reocclusion; coggulopathy; deep venous thrombosis; plumonary embolism; PE; thrombot formation; occlusion; stenosis; restenosis; angiogenesis; antianginal; cerebroprotective; antiarteriosclerotic; anticoagulant; cardiant; vasotropic; thrombolytic; inhibitor; interleukin 2; IL2.
                                                                                                                                                                                                             QSILBLFNTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMM 360
                                                                                                                                                                                                                                                                                KKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGS
KGPGISKFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELAD
               65 KGPGISKFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELAD
                                                                    185 ETFGALDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKL
                                                                                                                                                           241 AKDIQVASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCH
                                                                                                                                                                          121 RVLDVVERSLSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQ
                                                                                                       181 ETFGALDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKL

    1. .24
/label= Leader_peptide
/note= "Derived from human interleukin 2 (hIL2)"

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/note= "Cleavage site of leader sequence"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human soluble CD39 fusion protein construct, pIL2LTrim4.
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/note= "Human soluble CD39 protein"
                                                                                                                                                                                                                                                                                                                         450
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                                                                                                                                                                                                                                                                                                                                                                                                                     AAY70924 standard; protein; 473 AA
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98US-0107466P.
99US-0149010P.
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13-AUG-1999;
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Gaps . 0

Indels

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1; Mismatches

Conservative

Matches 449;

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8

Query Match Local

Similarity

ASTKKTQLTSSTQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRV

Score 2395; DB 3; Length 454; Pred. No. 4.9e-237;

99.9%;

420

364

300

304

(first entry)

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unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; preeclampsia; embolism; platelet-associated ischaemic disorder; lung ischaemia; thrombolism; platelet-associated ischaemic disorder; coronary artery thrombosis; cerebral attery thrombosis; intracardiac thrombosis; venous thrombosis; peripheral artery thrombosis; coagulopathy; deep venous thrombosis; peripheral artery thrombosis; coagulopathy; deep venous thrombosis; DVT; PS; pulmonary embolism; transfent ischaemic attack; thrombus formation; occlusion; reocclusion; stenosis; restenosis; antianginal; cardiant; cerebroprotective; antiarteriosclarotic; vasotropic; anticoagulant; coronary ischaemia; vascular occlusion; pll2Trim4 variant.
                                                                               CD39; ADP-induced platelet activation; platelet aggregation;
                                               Protein encoded by Trim 4 construct.
                                                                               Soluble
                                                                                                                                                                                                                                                                                                                                                                Protein
 The present sequence is the fusion protein construct, pIL2LTrim4. This construct comprises of the leader peptide from human interleukin 2 (hIL2) and soluble CD39 (solCD39) protein region, having apprase activity.

Soluble CD39 is constructed by removing the N- and C-terminal transmembrane domains. It retains the capacity to metabolise ATP and ADP at relevant concentrations and the ability to block and reverse ADP- induced platelet activation and recruitment, including platelet aggregation. Soluble CD39 polypeptides are useful for inhibiting angingenesis. It is useful for the treatment of unstable angina, stroke, myocardial infarction, coronary artery disease or injury, embolism, atherosclared is peripheral vascular occlusion, precelampsia, platelet associated ischaemic disorders including lung, coronary and cerebral actery thrombotic disorders including coronary, peripheral and cerebral artery thrombosis, intracardiac and venous thrombosis, coagulopathy, deep venous thrombosis (DVT), pulmonary embolism (PB) and translent ischaemic attack. Soluble CD39 is also useful for preventing thrombus formation or reformation, ceclusion, reocclusion, stenosis or restenosis of blood vessels or stroke
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 ASTKKTQLTSSTQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KGPGISKFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELAD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RVLDVVERSLSNYPPDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RVLDVVERSLSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ETFGALDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           KKPCAQPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHPIGKIQGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                             New soluble CD39 polypeptides having apyrase activity, useful for inhibiting angiogenesis and treating unstable angina, myocardial infarction, stroke, coronary artery disease or injury.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 2395; DB 3; Length 473; Pred. No. 5.2e-237; 1; Mismatches 0; Indels 0
 Gimpel SD
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 Price VL,
                                                                                                                               English
                                                                                                                           Claim 6; Page 114-116; 122pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity 99.8%;
Matches 449; Conservative
 Gayle RB,
                                WPI; 2000-339644/29
Maliszewski CR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 473 AA;
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The present sequence is the protein encoded by Trim4 construct. pIL2Trim4 variant was constructed by removing the human IL2 residues from solCD39 fusion construct. Fusion of 12 amino acids from the N-terminus of mature human IL2 to the solCD39 coding region results in high levels of both expression and activity in the supernatants of transfected cells. SolCD39 is used in the treatment of unstable angian, myocardial infarction, stroke, coronary artery disease or injury, atherosolerosis, peripheral disorder including lung isohaemia, coronary ischaemia and cerebral ischaemia, a thrombosic disorder including coronary artery thrombosis, cerebral artery thrombosis, intracardiac thrombosis, peripheral artery
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Inhibiting platelet activation and recruitment, useful for treating a mammal suffering from unstable angina, myocardial infarction, stroke, coronary artery disease or injury, comprises administering soluble CD39
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     thrombosis, venous thrombosis, thrombosis, coagulopathy, deep venous thrombosis (DVT), pulmonary embolism (PR), transient ischaemic attack. Soluble (D39) is also useful for preventing thrombus formation or reformation, occlusion, reocclusion, stenosis or restenosis of blood
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Pred. No. 5.2e-237;
1; Mismatches 0;
                                                                                                                                                                            /note= "Soluble portion of CD39"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gayle RB, Marcus AJ;
                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RES FOUND INC.
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98US-0107466P.
99US-0149010P.
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99.88;
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Best Local Similarity 99.8°
Matches 449; Conservative
                                                                                                                     26. .27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2000-339518/29.
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(CORR ) CORNELL
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Homo sapiens.
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06-NOV-1998;
13-AUG-1999;
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                             Synthetic
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Gaps

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Indels

9

1 ASTKKTQLTSSTQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRV

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AAY70901 standard; protein; 473

AAY70901;

AAY70901 ID AAY7 XX

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Soluble CD39; solCD39; human; apyrase activity; platelet activation; unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclarosis; peripheral vascular occlusion; preeclampsia; embolism; platelet-associated ischaemic disorder; thrombotic disorder; reocclusion; coagulopathy; deep venous thrombosis; DVT; pulmonary embolism; PE; thrombus formation; occlusion; restenosis; angiogenesis; antianginal; cerebroprotective; antiarteriosclerotic; anticoagulant; cardiant; vasotropic; thrombolytic; inhibitor; interleukin 2; IL2.
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                                                                                                                                                                                                                                                                  KKFCAQPWEBIKTSYAGVKEKYLSBYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGS 420
                                                                                                                                                                                                                                                                                180
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                                   120
                                                  RVLDVVERSLSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQ
                                                                                           ETFGALDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKL
                                                                                                                                         QSILELFNTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMM
                                   KGPGISKFVQKVNBIGIVITDCMBRAREVIPRSQHQETPVYLGATAGMRLKMESEBLAD
                                                                                                                                                                          AKDI QVASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCH
            SSTKKTQLTSSTQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRV
of human IL2'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
1. .24
hote= "Derived from human interleukin 2 (hIL2)"
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/label= Mature human interleukin_2
/note= "Derived from N-terminal end
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/note= "Human soluble CD39 protein"
                                                                                                                                                                                                                                                                                                                   DAGWTLGYMLNLTNMIPAEOPLSTPLSHST 450
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Synthetic.
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The present sequence is a fusion construct pIL2LsolCD39, comprising the leader peptide of human interleukin 2 (hIL2), 12 amino acids from the mature N-terminus of hIL2 and soluble CD39 (solCD39) coding region, having apyrase activity. This produces high levels of solCD39 expression and activity in the transfected cells. Soluble CD39 is constructed by removing the N- and C-terminal transmembrane domains. It retains the capacity to metabolise ATP and ADP at relevant concentrations and the ability to block and reverse ADP-induced platelet activation and crecruitment, including platelet aggregation. Soluble CD39 polypeptides recruitment, including platelet aggregation. Soluble CD39 polypeptides constable angina, myocardial infarction, stroke, coronary artery disease or injury, atherosclerosis, peripheral vascular occlusion, preeclampsia, coronary and cerebral ischaemia, thrombotic disorders including lung, peripheral and cerebral artery thrombosis, intracardiac and venous thrombosis, copying thrombosis, copying thrombosis (but preventing thrombus formation or reformation, occlusion, reocclusion, for preventing thrombus formation or reformation, etroke
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                         New soluble CD39 polypeptides having apyrase activity, useful for inhibiting angiogenesis and treating unstable angina, myocardial infarction, etroke, coronary artery disease or injury.
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                                                                             SD;
                                                                               Gimpel
                                                                                                                                                                                                                           Disclosure, Page 99-101; 122pp; English
                                                                               Price VL,
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98US-0107466P.
99US-0149010P.
                                                                                 Gayle RB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity 99.8<sup>†</sup>
Matches 449; Conservative
                                                (IMMV ) IMMUNEX CORP.
                                                                                                                WPI; 2000-339644/29.
N-PSDB; AAD00207.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 478 AA;
                                                                                 Maliszewski CR,
   06-NOV-1998;
                 13-AUG-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                           peripheral artery thrombosis; coagulopathy; deep venous thrombosis; DVT; PB; pulmonary embolism; transient ischaemic attack; thrombus formation; occlusion; reoccousion; stenosis; restenosis; antianginal; cardiant; cerebroprotective; antiarteriosclerotic; vasotropic; anticoagulant;
                                                                                                                                                                                                                                                                                      disease;
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                                                                                                                                                                                                                                                      Soluble CD39; ADP-induced platelet activation; platelet aggregation; unstable angina; myocardial infarction; stroke; coronary artery disease, atherosclerosis; peripheral vascular occlusion; preeclampsia; embolism; platelet-associated ischaemic disorder; lung ischaemia; thrombolytic; cerebral ischaemia; thrombotic disorder; coronary artery thrombosis; cerebral artery thrombosis; intracardiac thrombosis; venous thrombosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "hulL2 leader sequence"
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/note= "SolCD39 protein"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          coronary ischaemia; vascular occlusion
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Maliszewski CR, Gayle RB, Marcus AJ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      location/Qualifiers
                                                AAY70891 ståndard; protein; 478 AA
                                                                                                                                                                                                        Protein encoded by pIL2Lsol CD39.
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.a= "Linker"
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98US-0107466P.
99US-0149010P.
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(CORR ) CORNELL RES FOUND INC.
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/note=
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N-PSDB; AAD00202.
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13-AUG-1999
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                                                                                                 AAY70891;
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/note= "Mature human interleukin 2 (hIL2) N-terminal end"
37. .40
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thrombosis, thrombosis, coagulopathy, deep venous thrombosis (DVI), pulmonary embolism (FE), transient ischaemic attack. Soluble CD39 is useful for preventing thrombus formation or reformation, occlusion, reocclusion, stenosis or restenosis of blood vessels or stroke
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/label= Leader_peptide
/note= "perived from human interleukin 2 (hIL2)"
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                                                                                                                                                                                                        99.9%; Score 2395; DB 3; Length 478; 99.8%; Pred. No. 5.3e-237; ive 1; Mismatches 0; Indels (
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Matches 449; Conservative
                                                                                                                                                             Sequence 478 AA;
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269 KDQALWQKLAKDIQVASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQ 328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Soluble CD39; ADP-induced platelet activation; platelet aggregation; unstable angina; myocardial infarction; stroke; ocnomary artery disease; atherosclerosis; peripheral vascular occlusion; preeclampsia; embolism; platelet-associated ischaemic disorder; lung ischaemia; thrombolytic; cerebral ischaemia; thrombotic disorder; lung ischaemia; thrombolytic; cerebral artery thrombosis; intracardiac thrombosis; venous thrombosis; peripheral artery thrombosis; coaquiopathy; deep venous thrombosis; peripheral artery thrombosis; coaquiopathy; deep venous thrombosis; PB; pulmonary embolism; transient ischaemic attack; thrombos formation; ceclusion; teccolusion; etenosis; restenosis; antianginal; cardiant; cerebroprotective; antiarteriosclerotic; vasotropic; anticoaquiant; coronary ischaemia; vascular occlusion; solCD39 expression plasmid.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Inhibiting platelet activation and recruitment, useful for treating a mammal suffering from unstable angina, myocardial infarction, stroke,
                                                                                                                                                                        389 SQEKUTEMMKKFCAQPWEEIKTSYAGVKEKYLSEYCFSGFYILSLLLQGYHFTADSWEHI
                                                             GIGNYQQCHQSILELFNTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKV
                                                                                     SQEKVTEMMKKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            25. .36
/note= "First 12 amino acids of mature human IL2"
                                                                                                                                                                                                                               HFIGKIQGSDAGWTLGYMLNLTNMIPAEQPLSTPLSHST 450
                                                                                                                                                                                                                                                      Protein encoded by soluble CD39 expression plasmid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "huIL2 leader sequence"
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/note= "Flag tag"
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98US-0107466P.
99US-0149010P.
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/note=
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(CORR ) CORNELL RES 1
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N-PSDB; AAD00204.
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06-NOV-1998;
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Peptide
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New soluble CD39 polypeptides having apyrase activity, useful for inhibiting angiogenesis and treating unstable angina, myocardial infarction, stroke, coronary artery disease or injury.
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                                                                          19. .487
/note= "Human soluble CD39 protein"
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Pred. No. 1.7e-235;
1; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                    Maliszewski CR, Gayle RB, Price VL, Gimpel SD;
                                    41. .48
/note= "FLAG Tag sequence"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Disclosure; Page 109-111; 122pp; English.
                 note= "Linker sequence"
                                                                                                                                                                                                                                                           98US-0104585P.
98US-0107466P.
99US-0149010P.
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97.8%;
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Matches 449; Conservative
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N-PSDB; AAD00209.
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plasmid. This was used for the transient expression of solCD39 protein in mammalian expression systems. SolCD39 is used in the treatment of mammalian expression systems. SolCD39 is used in the treatment of unstable angina, myocardial infarction, stroke, coronary artery disease or injury, dtherosclerois, peripheral vascular occlusion, preeclampsia, schaemia, coronary ischaemia and cerebral ischaemia, thrombotic disorder including coronary artery thrombosis, cerebral artery thrombosis, intracardiac thrombosis, peripheral artery thrombosis, thrombosis, carebral artery thrombosis, thrombosis, cambolism (PR), transiant ischaemia ettack. Soluble CD39 is also useful for preventing thrombus formation or reformation, occlusion, reocclusion,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    89 VHQVEECRVKGPGISKFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLL 148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  231
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coronary artery disease or injury, comprises administering soluble CD39 polypeptides.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9; Gaps
                                                                                                                       present sequence is encoded by soluble CD39(solCD39) expression
                                                                                                                                                                                                                                                                                                                                                                                                                                                99.3%; Score 2380.5; DB 3; Length 487; llarity 97.8%; Pred. No. 1.7e-235; Conservative 1; Mismatches 0; Indels 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         HFIGKIQGSDAGWTLGYMLNLTNMIPAEQPLSTPLSHST 450
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                                                                                                                                                                                                                                                                                                                                                                       stenosis or restenosis of blood vessels or stroke
                                                                                 Example 9; Page 109-111; 118pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 487 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Best Local Sımı
Matches 449;
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The present sequence is a fusion protein construct CD39-L4-1, comprising the human CD39-L4 N-terminal region and soluble CD39 protein. CD39-L4 is a seretted apyrase, belonging to the CD39 family. Soluble CD39 is constructed by removing the N- and C-terminal transmembrane domains. It retains the capacity to metabolise ATP and ADP at relevant concentrations and the ability to block and reverse ADP-induced platelet activation and recruitment, including platelet aggregation. Soluble CD39 polypeptides are useful for inhibiting angiogenesis. It is useful for the treatment of unstable angina, myocardial infarction, stroke, coronary artery disease or injury, atherosclerosis, peripheral vascular occlusion, preclampsia, coronary and cerebral ischaemic thrombotic disorders including loronary, peripheral and cerebral artery thrombotis, intracardiac and venous
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            thrombosis, coagulopathy, deep venous thrombosis (DVT), pulmonary embolism (PE) and transient ischaemic attack. Soluble CD39 is also useful for preventing thrombus formation or reformation, occlusion, reocclusion, stenosis or restenosis of blood vessels or stroke
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLG 189
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           70 OKVNEIGIYLTDCMERAREVIPRSOHOETPVYLGATAGMRLLRMESEELADRVLDVVERS
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thrombus formation; occlusion; stenosis; restenosis; angiogenesis; antianginal; cerebroprotective; antiarteriosclerotic; anticoagulant; cardiant; vasotropic; thrombolytic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     New soluble CD39 polypeptides having apyrase activity, useful for inhibiting angiogenesis and treating unstable angina, myocardial infarction, stroke, coronary artery disease or injury.
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                                                                                                                                            1. .37
/note= "Human CD39-L4 protein N-terminal end"
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                                                                                                                                                                         20. .21
/note= "Cleavage site of leader sequence"
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                                                                                                                                                                                                             38. .476
/note= "Human soluble CD39 protein"
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100.0%; Pred. No. 5.5e-233;
ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gimpel SD;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 6; Page 89-91; 122pp; English
                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                          98US-0104585P.
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Matches 441; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                              (IMMV ) IMMUNEX CORP.
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                                                                      Homo sapiens
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13-AUG-1999;
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                                                                                    Synthetic
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                                         BILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFFIQGIGNYQQCHQSILELFNT 309
                                                                                             429
                                                                                                                                    Soluble CD39; ADP-induced platelet activation; platelet aggregation; unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; preeclampsia; embolism; platelat-associated ischaemic disorder; lung ischaemia; thrombolytic; cerebral ischaemia; thrombotic disorder; coronary artery thrombosis; cerebral artery thrombosis; intracardiac thrombosis; vanous thrombosis; peripheral artery thrombosis; cosquippathy; deep venous thrombosis; peripheral artery thrombosis; cosquippathy; deep venous thrombosis; peripheral artery thrombosis; restensist attack; thrombosis; DVT; PE; pulmonary embolism; transient ischaemic attack; thrombosis; DVT; cocclusion; recoclusion; stenosis; restenosis; antianginal; cardiant; cerebroprotective; antiateriosclerotic; vasotropic; anticoagulant; coronary ischaemia; vascular occlusion.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Inhibiting platelet activation and recruitment, useful for treating a mammal suffering from unstable angina, myocardial infarction, stroke, coronary artery disease or injury, comprises administering soluble CD39
            EIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYM
                                                    SYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWE
  GASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            20. .21
38. .476
/note= "Soluble portion of CD39"
                                                                                                                                                                                                                                                                                                     Protein encoded by CD39-L4-1 construct.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Marcus AJ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 'note= "Derived from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
                                                                                                                                                                                                                                     AAY70888 standard; protein; 476 AA.
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(CORR ) CORNELL RES FOUND INC.
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98US-0107466P.
99US-0149010P.
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Synthetic.
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06-NOV-1998;
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The present sequence is a fusion construct of human soluble CD39 encoded by CD39-L4-1 construct. CD39-L4 is a secreted apyrase belonging to the by CD39-L4-1 construct. CD39-L4 is a secreted apyrase belonging to the cycle family. The fusion construct is used for the expression and activity of soluble CD39 in CHO (chinese hamster ovary) cells. Soluble CD39 cetains the capacity of wildtype CD39 to metabolise ATP and ADP at retains the capacity of wildtype CD39 to metabolise ATP and ADP at physiologically relevant concentrations as well as the ability to block and reverse ADP-induced platelet activation and recruitment including platelet aggregation. This is used in the treatment of unstable angina, myocardial infarction, stroke, coronary artery disease or injury, atherosclerosis, peripheral vascular occlusion, preeclampsia, embolism, platelet-associated ischaemia disorder including lung ischaemia, coronary strery thrombosis, intracardiac thrombosis, peripheral artery thrombosis, intracardiac thrombosis, capalopathy, deep venous thrombosis, intracardiac thrombosis, capulopathy, deep venous thrombosis, pulmonary embolism (PB), trombus formation or reformation, reocclusion, stenosis or transient ischaemic attack. Soluble CD39 is useful for preventing thrombus formation or reformation, reocclusion, stenosis or restenosis of blood vessels or stroke
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 476;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
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100.0%; Pred. No. 5.5e-233;
ive 0; Mismatches 0;
Claim 6; Page 89-91; 118pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best Local Similarity 100.
Matches 441; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 476 AA;
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19 TGAPTSTQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGI

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The present sequence is the fusion protein construct, IgkappalsolCD39.

This construct comprises of the leader peptide from human immunoglobulin is gkappa, limited to the soluble CD39 (solCD39) protein region by few residues derived from human interleukin 2 (hIL2). SolCD39 has apyrase activity and is constructed by removing the N- and C-terminal transmembrane domains. It retains the capacity to metabolise ATP and ADP at relevant concentrations and the ability to block and reverse ADP-induced platelet activation and recruitment, including platelet aggregation. Soluble CD39 polypeptides are useful for inhibiting aggregation. Soluble CD39 polypeptides are useful for inhibiting anyocardial infarction, coronary artery disease or injury, embolism, atherosclerosis, peripheral vascular occlusion, preeclampsia, platelet-ischaemic disorders including lung, coronary and cerebral aschaemic disorders including coronary, peripheral and cerebral artery thrombotic disorders including coronary, peripheral and cerebral artery thrombosis, intracardiac and venous thrombosis, coagulopathy, deep venous thrombosis (DVT), pulmonary embolism (PE) and transient ischaemic attack. Soluble CD39 is also useful for preventing thrombus formation or reformation, occlusion, reocclusion, stenosis or restenosis or blood vessels or stroke
unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; preeclampsia; embolism; platelet-associated ischaemic disorder; thrombotic disorder; reocclusion; coagulopathy; deep venous thrombosis; pry; pulmonary embolism; PE; thrombus formation; occlusion; stenosis; restenosis; angiogenesis; antianginal; cerebroprotective; antiarteriosclerotic; anticoagulant; cardiant; vasotropic; thrombolytic; inhibitor; interleukin 2; IL2; Ig;

    21. .24
    /note= "Residues derived from human interleukin 2 (IL2)"

                                                                                                                                                                                                                                                                1. .20
/label= Leader_peptide
/note= "Derived from human immunoglobulin Ig kappa"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    New soluble CD39 polypeptides having apyrase activity, useful for inhibiting angiogenesis and treating unstable angina, myocardial infarction, stroke, coronary artery disease or injury.
                                                                                                                                                                                                                                                                                                                    .21
:e= "Cleavage Bite of leader sequence"
                                                                                                                                                                                                                                                                                                                                                                                                                       /note= "Human soluble CD39 protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gimpel SD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Price VL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 6; Page 116-118; 122pp; English.
                                                                                                                                                                                                                                       location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  98US-0104585P.
98US-0107466P.
99US-0149010P.
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                                                                                                                                                                                                                                                                                                                                                                                                  .463
                                                                                                                                                                                                                                                                                                                                            note=
                                                                                                                                      immunoglobulin kappa.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (IMMV ) IMMÜNEX CORP.
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                                                                                                                                                                                                                                                                                                                        Cleavage-site
                                                                                                                                                                               Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             13-OCT-1999;
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                                                                                                                                                                                                      Synthetic
                                                                                                                                                                                                                                                              Peptide
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245
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Soluble CD39; ADP-induced platelet activation; platelet aggregation; unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; preeclampsia; embolism; platelet-associated ischaemic disorder; lung ischaemia; thrombolytic; cerebral ischaemia; thrombocic disorder; coronary artery thrombosis; cerebral artery thrombosis; intracardiac thrombosis; venous thrombosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 peripheral artery thrombosis; coagulopathy; deep venous thrombosis; DVT; PE; pulmonary embolism; transient ischaemic attack; thrombus formation; cocclusion; rescenosis; antianginal; cardiant; cerebroprotective; antiarteriosclerotic; vasotropic; anticoagulant; coronary ischaemia; vascular occlusion; IgkappalsolCD39 construct.
                  SKFVOKVNEIGIYLIDCMERAREVIPRSOHOETPVYLGATAGMRLLRMESEELADRVLDV
                                                                            139 VERSLSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETINNQETFGA
                                                                                                                      LDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQ
                                                                                                                                       LDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQ
                                                                                                                                                                              246 VASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILE
                                                                                                                                                                                                   259 VASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILE
                                                                                                                                                                                                                                                              LENTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCA
                                                                                                                                                                                                                                                                                                QPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWT
                                                                                                                                                                                                                                                                                                                                 OPWERIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWT
                                                           126 VERSLSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      l. .20
'note= "Igkappa leader sequence"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Protein encoded by IgkappalsolCD39 construct.
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/note= "Derived from solCD39"
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                                                                                                                                                                                                                                                                                                                                                                                        439 LGYMLNLTNMIPAEQPLSTPLSHST 463
                                                                                                                                                                                                                                                                                                                                                                LGYMLNLTNMIPAEQPLSTPLSHST 450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAY70902 standard; protein; 463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
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Peptide
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Indels

Score 2354; DB 3; Pred. No. 8.4e-233; 1; Mismatches 3;

98.2%; 99.1%;

Matches 441; Conservative

Query Match Best Local Similarity

Length 463;

AAY70922 standard; protein; 464 AA.

17-AUG-2000 (first entry)

AAY70922;

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AAY70922
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                                                                                                                                                                                                                                                             The present bequence is the protein encoded by IgkappalsolCD39 construct. This is used for transient expression of soluble (sol)CD39 in recombinant colls for determining enzymatic activity and platelet inhibitory activity for each protein product. SolCD39 is used in the treatment of unstable angina, myockrdial infarction, stroke, coronary artery disease or injury, atherosclerosis, peripheral vascular occlusion, preeclampsia, embolism, platelet-associated ischaemia, thrombotic disorder including coronary artery thrombosis, cerebral artery thrombosis, intracardiac thrombosis, peripheral artery thrombosis (brit, pulmonary embolism (PB), transient ischaemia attack. Soluble CD39 is also useful for preventing thrombos formation or reformation, occlusion, reocclusion, stenosis or
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VERBLSNYPPDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGA 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VERSLSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGA 198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQ 245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILE 305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         78
                                                                                                                                                          Inhibiting platelet activation and recruitment, useful for treating a mammal suffering from unstable angina, myocardial infarction, stroke, coronary artery disease or injury, comprises administering soluble CD39 polypeptides.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       OPWEEIKTSYAGVKEKYLSEYCFSGTYILSLILOGYHFTADSWEHIHFIGKIQGSDAGWT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LDLGGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LFNTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              6 TQLTSSTQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGI
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 2354; DB 3; Length 463;
Pred. No. 8.4e-233;
1; Mismatches 3; Indels (
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                                                                                                    Marcus AJ;
                                                                                                                                                                                                                                     Claim 6; Page 116-118; 118pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                           restenosis of blood vessels or stroke
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LGYMLNLTNMIPAEQPLSTPLSHST
                                                                    CORNELL RES FOUND INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     98.2%;
99.1%;
98US-0104585P.
               98US-0107466P.
                           99US-0149010P.
                                                                                                   Maliszewski CR, Gayle RB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  441; Conservative
                                                          (IMMV ) IMMUNEX CORP
                                                                                                                                  WPI; 2000-339518/29.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
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16-OCT-1998;
                             13-AUG-1999;
               06-NOV-1998;
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Best Local S
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The present sequence is the fusion protein construct, pILZITriml. This construct comprises of the leader peptide from human interleukin 2 (hILZ) and soluble CD39 (solCD39) protein region, having apprase activity. The two regions are joined by an intervening Ala residue. Soluble CD39 is constructed by removing the N- and C-terminal transmembrane domains. It can the ability to block and reverse ADP-induced platelet activation and recruitment, including platelet aggregation. Soluble CD39 polypeptides are useful for inhibiting angiogenesis. It is useful for the treatment of unstable angiam, attherosclerosis, peripheral vascular occlusion, preclampsia, platelet-associated ischaemic disorders including lung, coronary and cerebral ischaemia, thrombotic disorders including lung, coronary and cerebral ischaemia, thrombotic disorders including coronary, embolism (PB) and transient ischaemic attack. Soluble CD39 is also useful CD for preventing thrombosis, coagulopathy, deep venous thrombosis (DVT), pulmonary coronary and cransient ischaemic attack. Soluble CD39 is also useful coronary and cransient ischaemic attack. Soluble CD39 is also useful
                                                                      Soluble CD39; solCD39; human; apyrase activity; platelet activation; unstable angina; myocardial infarction; stroke; ocronary artery disease; atherosclerosis; peripheral vascular occlusion; precelampsia; embolism; platelet-associated ischaemic disorder; thrombotic disorder; reocclusion;
                                                                                                                                                                                                                   coagulopathy; deep venous thrombosis; DVT; pulmonary embolism; PE; thrombus formation; occlusion; stenosis; restenosis; angiogenesis; antianginal; cerebroprotective; antiarteriosclerotic; anticoagulant; cardiant; vasotropic; thrombolytic; inhibitor; interleukin 2; IL2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1. .24
/label= Leader_peptide
/note= "Derived from human interleukin 2 (hIL2)"
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/note= "Cleavage site of leader sequence"
Human soluble CD39 fusion protein construct, pIL2LTriml.
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/note= "Human soluble CD39 protein"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Location/Qualifiers
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13-AUG-1999;
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Peptide
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BILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILBLFNT 309
                                                                                                                                                                                                                                                            130 LSNYPPDPQGARITTQGEGAYGWITINYLGKFSQKTRWFSIVPYETNNQETFCALDLG 189
                                                                                                                                                                        190 GASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASN 249
                                                                                                                                                                                                                                                                                                     BIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYM 429
                                                                                                                                        144 LSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNGETFGALDLG 203
                                                                                                                                                                                   204 GASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALMQKLAKDIQVASN 263
                                         Gaps
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Query Match 98.1%; Score 2353; DB 3; Length 464; Best Local Similarity 99.8%; Pred. No. 1.1e-232; Matches 440; Conservative 1; Mismatches 0; Indels (
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Search completed: March 7, 2005, 13:13:10 Job time: 75.6232 secs

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1 ASTKKTQLTSSTQNKALPEN ......NLTNMIPAEQPLSTPLSHST 450
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| cgn2_6/ptodata/1/pubpaa/US07_PUBCOMB.pep:*
| cgn2_6/ptodata/1/pubpaa/US07_NEW PUB.pep:*
| cgn2_6/ptodata/1/pubpaa/US06_NEW PUB.pep:*
| cgn2_6/ptodata/1/pubpaa/US06_PUBCOMB.pep:*
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| cgn2_6/ptodata/1/pubpaa/US08_NEW PUB.pep:*
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| cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*
| cgn2_6/ptodata/1/pubpaa/US106_PUBCOMB.pep:*
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| cgn2_6/ptodata/1/pubpaa/US10_PUBCOMB.pep:*
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GenCore version 5.1.6
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                                                                                                                                                                                                                                                                                 Run on:
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result		Query	•	}		-
. I	Score	Match	Match Length DB	DB	ID	Description
-	2398	100.0	474	6	US-09-835-147-28	Sequence 28, Appl
7	2395	99.9	454	σ	US-09-835-147-6	Sequence 6, Appli
٣	2395	6.66	473	σ	US-09-835-147-29	Sequence 29, Appl
4	2395	6.66	478	σ	US-09-835-147-8	Sequence 8, Appli
S	2380.5	99.3	487	σ	US-09-835-147-26	Sequence 26, Appl
9	2356	98.2	476	6	US-09-835-147-3	Sequence 3, Appli
7	2354	98.2	463	σ	US-09-835-147-30	Sequence 30, Appl
80	2353	98.1	464	σ	US-09-835-147-27	Sequence 27, Appl
6	2348	97.9	439	δ	US-09-374-586-2	Sequence 2, Appli
10	2348	97.9	502	13	US-10-092-063-38	Sequence 38, Appl
11	2348	97.9	510	σ	US-09-835-147-2	Sequence 2, Appli
12	2348	97.9	510	σ	US-09-374-586-1	Sequence 1, Appli
13	2348	97.9	510	10	US-09-781-796B-1	Sequence 1, Appli

Sequence 30, Appl	Sequence 4, Appli	Sequence 4, Appli	Sequence 4, Appli	Sequence 496, App	496,	496,	Sequence 496, App	496,	496,	496,	496,	496,	496,	496,	496,	496,	496,	496,	496,	496,	496,	496,	496,	496,	496,	496,	496,	496,	496,	496,	496
US-10-646-308-30	US-09-835-147-4	US-09-823-356-4	US-09-923-304-4	US-10-052-586-496	US-10-174-590-496	US-10-176-758-496	US-10-175-737-496	US-10-174-581-496	US-10-176-483-496	US-10-176-749-496	ċ	US-10-176-915-496	ġ	10-175-738-49	10-175-752	ġ	ġ	10-176-913-49	10-180-5	US-10-180-557-496	10-173-700	10-174-572-49	US-10-174-579-496	10-174-582-49	US-10-174-588-496	ġ	10-175-740-49		10-176-488-49	10-176-492	US-10-176-747-496
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2348	2294	1009	910.5	906.5	906.5	906.5	906.5	906.5	906.5	906.5	906.5	906.5	906.5	906.5	906.5	906.5	906.5	906.5	906.5	906.5	906.5	906.5	906.5	906.5	906.5	906.5	906.5	906.5	906.5	906.5	906.5
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KGPGISKFVQKVNEIGIYLIDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELAD 120
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ORGANISM: Artificial Sequence
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                                    84
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APPLICANT: Gayle III, Richard B.
APPLICANT: Gayle III, Richard B.
APPLICANT: Gayle III, Richard B.
APPLICANT: Gayle III, Richard B.
APPLICANT: Gimpel, Steven D.
TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE REFERENCE: 2879-US
CURRENT FILING DATE: 2899-US
CURRENT FILING DATE: 2001-04-13
PRIOR FILING DATE: 1998-10-16
PRIOR PLICATION NUMBER: US 60/104,585
PRIOR PLILING DATE: 1998-11-06
PRIOR PLILING DATE: 1998-11-06
PRIOR PLILING DATE: 1999-10-13
PRIOR FILING DATE: 1999-10-13
PRIOR FILING DATE: 1999-10-13
NUMBER OF SEQ ID NOS: 31
SOFTWARE: Patentin Ver: 2.0
SEQ ID NO 6
LENGTH: 454
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                        25 ASTKKTQLTSSTQNKALPENVKYGIVLDAGSSHTSLYIXKWPAEKENDTGVVHQVEECRV
                                                                                      85 KGPGISKFVQKYNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELAD
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llarity 99.8%; Pred. No. 5e-207;
Conservative 1; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; OTHER INFORMATION: Description of Artificial Sequence:
; OTHER INFORMATION: construct of human CD39
US-09-835-147-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DAGWTLGYMLNLTNMIPAEQPLSTPLSHST 450
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Patent No. US20020002277A1
GENERAL INFORMATION:
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Best Local Similarity
Matches 449; Conserv
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                                                                      RVLDVVERSLSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQ 180
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APPLICANT: Gayle III, Richard B.
APPLICANT: Gayle III, Richard B.
APPLICANT: Gayle III, Richard B.
APPLICANT: Gayle III, Richard B.
APPLICANT: Gayle III, Richard B.
APPLICANT: Gimpel, Steven D.
TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE REFERENCE: 2879-US
CURRENT APPLICATION NUMBER: US/09/835,147
CURRENT APPLICATION NUMBER: US 60/104,585
PRIOR FILING DATE: 1998-10-16
PRIOR FILING DATE: 1998-11-06
PRIOR PLICATION NUMBER: US 60/149,010
PRIOR PLICATION NUMBER: US 60/149,010
PRIOR FILING DATE: 1999-08-13
PRIOR FILING DATE: 1999-08-13
NUMBER OF SEQ ID NOS: 31
SEQ ID NO 29
LENGTHE. AT3
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65 KGPCISKFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELAD
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Best Local Similarity 99.8%; Pred. No. 5.3e-207;
Matches 449; Conservative 1; Mismatches 0;
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APPLICANT: Gayle III, Richard B.
APPLICANT: Gayle III, Richard B.
APPLICANT: Price, Virginia L.
APPLICANT: Gimpel, Steven D.
TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE REPRENCE: 2819-US
CURRENT APPLICATION NUMBER: US/09/835,147
CURRENT FILING DATE: 2001-04-13
PRIOR FILING DATE: 1998-10-16
PRIOR FILING DATE: 1998-11-06
PRIOR FILING DATE: 1998-11-06
PRIOR FILING DATE: 1999-08-13
PRIOR FILING DATE: 1999-08-13
PRIOR FILING DATE: 1999-08-13
PRIOR FILING DATE: 1999-10-13
NUMBER: OF SEQ ID NOS: 31
SOFTWARE: PatentIn Ver. 2.0
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                                  209 ETFGALDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQXL
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; OTHER INFORMATION: construct of human CD39
US-09-835-147-26
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Pred. No. 1.1e-205;
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Patent No. US2002000227741
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Best Local Similarity 97.8
Matches 449; Conservative
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APPLICANT: Gayle III, Richard B.
APPLICANT: Gayle III, Richard B.
APPLICANT: Gayle III, Richard B.
APPLICANT: Gayle III, Richard B.
APPLICANT: Frice, Virginia L.
APPLICANT: Gimpel, Steven D.
TITLE OF INVENTYON: Inhibitors of Platelet Activation and Recruitment
FILE REFRENCE: 2879-US
CURRENT FILING DATE: 2001-04-13
PRIOR PLICATION NUMBER: US 60/104,585
PRIOR APPLICATION NUMBER: US 60/107,466
PRIOR FILING DATE: 1998-10-16
PRIOR PLICATION NUMBER: US 60/107,466
PRIOR PLICATION NUMBER: US 60/107,466
PRIOR PLING DATE: 1999-10-13
NUMBER OF SEQ ID NOS: 31
SOFTWARE: Paténtin Ver. 2.0
SEQ ID NO 8
LENTH: 478
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                           144 RVLDVVERSLSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQ
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  RVLDVVERSLSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQ
                                                                                       RIFGALDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKL
                                                                                                                            204 ETFGALDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKL
                                                                                                                                                                          AKDIQVASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCH
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99.9%; Score 2395; DB 9;
Best Local Similarity 99.8%; Pred. No. 5.4e-207;
Matches 449; Conservative 1; Mismatches 0;
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Patent No. US20020002277A1
GENERAL INFORMATION:
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ORGANISM: Artificial Sequence
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Patent No. US20020002277A1

GENERAL INFORMATION:

APPLICANT: Maliszewski, Charles R.

APPLICANT: Gimple III, Richard B.

APPLICANT: Gimple III, Richard B.

APPLICANT: Gimple III, Richard B.

APPLICANT: Gimple III, Richard B.

APPLICANT: Gimple III, Richard B.

APPLICANT: Olimple III, Richard B.

TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE REFERENCE: 2879-US

CURRENT FAPLICATION NUMBER: US/09/835,147

CURRENT FILING DATE: 1998-10-16

PRIOR FILING DATE: 1998-11-06

PRIOR FILING DATE: 1998-11-06

PRIOR PRIOR APPLICATION NUMBER: US 60/149,010

PRIOR APPLICATION NUMBER: US 60/149,010

PRIOR APPLICATION NUMBER: PCT/US99/22955

PRIOR FILING DATE: 1999-10-13

NUMBER OF SEQ ID NOS: 31

SOFTWARE: PatentIn Ver. 2.0

SEQ ID NO 30

LENGTH: 463

LENGTH: 463
                        336 SYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWE
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Best Local Similarity 99.1%; Pred. No. 2.6e-203;
Matches 441; Conservative 1; Mismatches 3;
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                        269 KDQALWQKLAKDIQVASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQ 328
                                                                                                           329 GIGNYQQCHQSILELFNTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKV 388
                                                                                                                                                                                              389 SQEKVTEMMKKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLGGYHFTADSWEHI 448
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APPLICANT: Maliszewski, Charles R.

APPLICANT: Gayle III, Richard B.

APPLICANT: Gayle III, Richard B.

APPLICANT: Price, Virginia L.

APPLICANT: Price, Virginia L.

APPLICANT: Steven D.

TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE REPRENCE: 2879-US

CURRENT APPLICATION NUMBER: US 60/104,585

FRICA FILING DATE: 1998-10-16

PRICA PRICE THING DATE: 1998-10-16

PRICA FILING DATE: 1998-11-06

PRICA FILING DATE: 1999-10-13

PRICA FILING DATE: 1999-10-13

PRICA FILING DATE: 1999-10-13

PRICA FILING DATE: 1999-10-13

PRICA FILING DATE: 1999-10-13

NUMBER OF SEQ ID NOS: 31

SOFTWARE: PATENTING PATE: 1999-10-13

NUMBER OF SEQ ID NOS: 31

SOFTWARE: PATENTIAL SEQUENCE

TYPE: PRT

TYPE: PRT

TYPE: PRT

TYPE: PRT

TYPE: PRT
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232 KDQALWQKLAKDIQVASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQ
                                                                                     GIGNYOOCHOSILELFNTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKV
                                                                                                                                                                        SQEKVTEMMKKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHI
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                                                                                                                                                                                                                                                         412 HFIGKIQGSDAGWTLGYMLNLTNMIPAEQPLSTPLSHST 450
                                                                                                                                                                                                                                                                                      449 HFIGKIQGSDAGWTLGYMLNTINMIPAEQPLSTPLSHST 487
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Patent No. US20020002277A1
GENERAL INFORMATION:
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US-09-835-147-3
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APPLICANT: Ford, John
APPLICANT: Ford, John
APPLICANT: Mulero, Julio
TITLE OF INVENTION METHODS AND MATERIALS RELATING TO NOVEL CD39-LIKE POLYPEPTIDES
FILE REPERENCE: 28110/35908
CURRENT APPLICATION NUMBER: US/10/092,063
CURRENT FILING DATE: 2002-03-05
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                                                                                                                                     Sequence 2, Application US/09374586
Patent No. US20020138858A1
GENERAL INFORMATION:
APPLICANT: Pinsky, David J.
TITLE OF INVENTION: CD39/ECTO-ADPASE AS A TREATMENT FOR THROMBOTIC AND TITLE OF INVENTION: ISCHEMIC DISORDERS
FILE REPERENCE: 0575/59167
CURRENT APPLICATION NUMBER: US/09/374,586
CURRENT FILING DATE: 1999-08-13
NUMBER OF SEQ ID NOS: 2
SOFTWARE: PATENTIN Ver: 2.1
SEQ ID NO 2
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100.0%; Pred. No. 8.3e-203;
ative 0; Mismatches 0;
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US-10-092-063-38
Sequence 38, Application US/10092063
Publication No. US20020173005A1
GENERAL INFORMATION:
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                                      444 LNLTNMIPAEQPLSTPLSHST
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Matches 439; Conservative
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ORGANISM: Homo sapiens
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 130 LSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLG 189
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        204 GASTQVIFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALMQKLAKDIQVASN 263
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                                                                                                                                                                                                                                                                                    APPLICANT: Maliszewski, Charles R.
APPLICANT: Maliszewski, Charles R.
APPLICANT: Gayle III, Richard B.
APPLICANT: Price, Virginia L.
APPLICANT: Gimpel, Steven D.
TITLE CP INVENTION: Inhibitors of Platelet Activation and Recruitment FILE REFERENCE: 2879-US
CURRENT APPLICATION NUMBER: US/09/835,147
CURRENT FILING DATE: 2001-04-13
PRIOR APPLICATION NUMBER: US 60/104,585
PRIOR APPLICATION NUMBER: US 60/107,466
PRIOR FILING DATE: 1998-10-16
PRIOR PILING DATE: 1998-11-06
PRIOR PILING DATE: 1999-08-13
PRIOR APPLICATION NUMBER: US 60/149,010
PRIOR PILING DATE: 1999-08-13
PRIOR PILING DATE: 1999-10-13
PRIOR PILING DATE: 1999-10-13
PRIOR PILING DATE: 1999-10-13
PRIOR FILING DATE: 1999-10-13
70 QKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERS
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98.1%; Score 2353; DB 9;
Best Local Similarity 99.8%; Pred. No. 3.2e-203;
Matches 440; Conservative 1; Mismatches 0;
                                                                                   Sequence 27, Application US/09835147 Patent No. US2002000227781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM: Artificial Sequence
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LENGTH: 464
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Length 510; Indels 131 157 191 217 251 277 311

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398 KTSYAGVKEKYLSEYCFSGTYILSLILQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLN 457
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                                                                                                                                                                                                                                                                                                             97.9%; Score 2348; DB 9; 100.0%; Pred. No. 1e-202;
                                                                                                                                                                                                                                                                                                                                                       0; Mismatches
      PRIOR APPLICATION NUMBER: US 60/107,466
PRIOR FILING DATE: 1998-11-06
PRIOR APPLICATION NUMBER: US 60/149,010
PRIOR PILING DATE: 1999-08-13
PRIOR PILING DATE: 1999-10-13
NUMBER OF SEQ ID NOS: 31
SOFWARE: PATENTIN VET. 2.0
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                                                                                                                                                                                                                                                                                                             Query Match 97.9%; 8 Best Local Similarity 100.0%; Matches 439; Conservative 0
                                                                                                                                                                                                  ; LENGTH: 510
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-835-147-2
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US-09-374-586-1
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LENGTH: 510
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US-09-374-586-1
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Patent No. US20020002277A1
GENERAL INFORMATION:
APPLICANT: Maliscawski, Charles R.
APPLICANT: Gayle III, Richard B.
APPLICANT: Frice, Virginia L.
APPLICANT: Gimpel, Steven D.
TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE REFERENCE: 2879-US
CURRENT APPLICATION NUMBER: US 60/104,585
PRIOR FILING DATE: 1998-10-16
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PRIOR FILING DATE: 2002-01-31
PRIOR APPLICATION NUMBER: PCT/US99/16180
PRIOR PELING DATE: 1999-07-16
PRIOR PELING DATE: 1999-07-16
PRIOR PELING DATE: 1999-07-09
PRIOR PELING DATE: 1999-07-09
PRIOR PELING DATE: 1999-03-19
PRIOR PELING DATE: 1999-03-19
PRIOR PELING DATE: 1999-02-04
PRIOR PELING DATE: 1999-02-04
PRIOR PELING DATE: 1999-07-16
PRIOR APPLICATION NUMBER: 09/122,449
PRIOR PELING DATE: 1999-07-16
PRIOR PELING DATE: 1999-07-16
PRIOR PELING DATE: 1999-07-16
NUMBER OF SEQ ID NOS: 39
SOFTWARE: PALENTIN VOY: 2.0
SEQ ID NO 38
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US-09-835-147-2
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Sequence 1, Application US/09374586
Patent No. US20020138858A1
Patent No. US20020138858A1
SERENAL INFORMATION:
APPLICANT: Pinsky, David J.
TITLE OF INVENTION: CD39/ECTC-ADPASE AS A TREATMENT FOR THROMBOTIC AND TITLE OF INVENTION: ISCHEMIC DISORDERS
FILE REFERENCE: 0575/59167
CURRENT APPLICATION NUMBER: US/09/374,586
CURRENT FILING DATE: 1999-08-13
NUMBER OF SEQ ID NOS: 2
SOFTWARE: Patentin Ver. 2.1
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100.0%; Pred. No. 1e-202;
ive 0; Mismatches 0; Indels
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Best Local Similarity 100.
Matches 439; Conservative
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Sequence 30, Application US/10646308
Publication No. US20040136992A1
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: BURNON, Paul B. J.
APPLICANT: BURNON, Paul B. J.
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR TREATING CARDIOVASCULAR DISEASE
FILLE REFERENCE: 343.2-B
CURRENT APPLICATION NUMBER: US/10/646,308
CURRENT FILING DATE: 2003-08-21
PRIOR APPLICATION NUMBER: --to be assigned--
PRIOR PILING DATE: 2003-08-12
PRIOR FILING DATE: 2003-08-12
PRIOR FILING DATE: 2002-08-28
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                                                      LRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTSY
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                                                                                                                                  SIQVIFVPQNQIIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEI
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                                                                                                             STOVTFVPQNQTIBSPDNALQFRLYGKDYNVYTHSPLCYGKDQALWQKLAKDIQVASNEI
                                                                                                                                                                                                             LRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPPQQFE1QGIGNYQQCHQS1LELFNTSY
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                                                                                                                                                                                                                                                                                                                                                                                                                LTNMIPAEQPLSTPLSHST 450
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SOFWHARE: PatentIn version 3.2
SEQ ID NO 30
LENGTH: 510
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CAGANISM: Homo sapiens
US-10-646-308-30
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 98
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Sequence 1, Application US/09781796B

Publication No. US20030040094A1

GENERAL INFORMATION:
APPLICANT: BEAUDOIN, Adrien R.
APPLICANT: BACH, Fritz H.
APPLICANT: ROBSON, Simon
TITLE OF INVENTION: THEREOF AND PROCESS OF PRODUCING THEREOF BY RECOMBINANT
TITLE OF INVENTION: TECHNOLOGY
TITLE OF INVENTION: TECHNOLOGY
TITLE OF INVENTION: TECHNOLOGY
FILE REFERENCE: 92033,90019
CURRENT APPLICATION NUMBER: US/09/781,796B
CURRENT APPLICATION NUMBER: 08/419,204
PRIOR FILING DATE: 1995-04-10
PRIOR FILING DATE: 1996-04-10
PRIOR PLING DATE: 1996-02-01
PRIOR PLING DATE: 1996-02-01

NUMBER OF SEQ ID NOS: 8
SOFTWARE: Patentin Ver: 2.1
SEQ ID NO: 2.1
SEQ ID NO: 2.1
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                                                                                           VNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLS 131
                                                                                                                 98 VNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLS 157
                                                                                                                                                                                       158 NYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQEFFGALDLGGA 217
                                                                                                                                                                                                                                                                                                                    LRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFBIQGIGNYQQCHQSILELFNTSY 311
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                         KTSYAGVKEKYLSEYCFSGTYILSLILQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLN 431
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                                                  38 TONKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQK
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                                                                                                                                                                    NYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGA
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US-09-781-796B-1
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DPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTSYCP 339
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                   KTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLN 431
                                                                                          398 KTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLN 457
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                                                                                                                                                                                                                                                                      Sequence 4, Application US/09835147
; Sequence 4, Application US/09835147
; Patent No. US200200022077A1
; Patent No. US20020002277A1
; GENERAL INFORMATION:
; APPLICANT: Maliazewski, Charles R.
; APPLICANT: Gimpel. III Richard B.
; APPLICANT: Gimpel. Steven D.
; TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILIA OF INVENTION: Inhibitors of Platelet Activation and Recruitment; FILIA OF INVENTION NUMBER: US/09/835,147
CURRENT FILING DATE: 2001-04-13
; PRIOR FILING DATE: 1998-10-16
pRIOR FILING DATE: 1998-11-06
; PRIOR FILING DATE: 1999-10-13
; NUMBER OF SEQ ID NOS: 31
; SOFTWARE: PatentIN Ver. 2.0
; SEQ ID NO 4

LEASTH 476
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NAME/KEY: VARIANT
LOCATION: (39)
LOCATION: (39)
CHER INFORMATION: Any amino acid, preferably Cys or Ser
US-09-835-147-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 95.7%; Score 2294; DB 9; Length 476; Best Local Similarity 98.6%; Pred. No. 6.9e-198; Matches 431; Conservative 0; Mismatches 2; Indels '
                                                                                                                                                                           432 LINMIPAEOPLSTPLSHST 450
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        314 YSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEEIKT 373

        Db
        340 YSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEEIKT 399

        QY
        374 SYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLNLT 433

        Db
        400 SYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLNLT 459

        QY
        434 NNIPABQPLSTPLSHST 450

        Db
        460 NNIPABQPLSTPLSHST 476

        Search completed: March 7, 2005, 14:12:48

        Job time: 54.7921 secs
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Sequence Sequence Sequence

Sequence 1 Sequence 1 Sequence 1 Sequence 3 Sequence 3 Sequence 1 Sequence 1 Sequence 16, Sequence 16,

Sequence 1 Sequence Sequence

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Run on:

Sequence:

Minimum DB 8 Maximum DB 8

Database

Result

Searched:

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132 NYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGA 191
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GENERAL INFORMATION:
APPLICANT: Ford, John
APPLICANT: Ford, John
APPLICANT: Ford, John
APPLICANT: Walero, Julio
APPLICANT: Walero, Julio
APPLICANT: Walero, Julio
APPLICANT: Walero, Julio
APPLICANT: Walero, Julio
APPLICANT: Walero, Julio
APPLICANT: Walero, Julio
APPLICANT: Walero, Julio
APPLICANT: 28110/3648.
FILE REFERENCE: 28110/3648.
CURRENT FILING DATE: 2000-01-11
PRIOR APPLICANION NUMBER: 09/481,238
PRIOR FILING DATE: 1999-00-09
PRIOR APPLICATION NUMBER: 09/370,265
PRIOR PELICATION NUMBER: 09/350836
PRIOR PELICATION NUMBER: 09/32444
PRIOR PLING DATE: 1999-07-09
PRIOR APPLICATION NUMBER: 09/24444
PRIOR PLING DATE: 1999-03-19
PRIOR PELING DATE: 1999-03-19
PRIOR APPLICATION NUMBER: 09/24444
PRIOR PLING DATE: 1999-02-04
PRIOR PLING DATE: 1999-02-04
PRIOR PELING DATE: 1999-07-16
PRIOR APPLICATION NUMBER: 09/118,205
PRIOR APPLICATION NUMBER: 09/118,205
PRIOR PLING DATE: 1999-07-16
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US-10-107-576-14
US-09-905-732B-14
US-09-905-732B-14
US-09-205-748B-15
US-09-905-744B-15
US-09-905-744B-15
US-09-905-742B-15
US-09-905-742B-15
US-09-129-112-2
US-09-129-112-15
US-09-129-112-16
US-09-905-743B-16
US-09-905-743B-16
US-09-905-743B-16
US-09-905-743B-16
US-09-905-744B-16
US-09-906-744B-16
US-09-906-744B-16
US-09-906-732B-16
US-09-905-732B-16
US-09-905-732B-16
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; Patent No. 6476211
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Best Local Similarity 100.
Matches 439; Conservative
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US-09-9106-13328

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GENERAL INFORMATION:
APPLICANT: BEAUDOIN, Adrien R.
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SEALLIER APPLICATION NUMBER: PCT/CA96/00223
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100.0%; Pred. No. 3.4e-243;
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Matches 439; Conservative
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Sequence 38, Application US/09370625A

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Sequence 38, Application US/09370625A

SEQUENCE SECOND SECOND

APPLICANT: Forth, John

APPLICANT: Forth, John

TITLE OF INVENTION: METHODS AND MATERIALS RELATING TO NOVEL CD39-LIKE POLYPEPTIDES

FILE REFERENCE: 20110/35908

CURRENT PLILING DATE: 1999-00-16

FRIOR FILING DATE: 1999-07-09

FRIOR PLILING DATE: 1999-07-09

FRIOR PLILING DATE: 1999-07-09

FRIOR FILING DATE: 1999-03-19

NUMBER OF SEQ ID NOS: 39

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                                                                         218 STQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEI
   STOVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNBI
                                                                                                                      LRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTSY
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Best Local Similarity 100.
Matches 439; Conservative
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                                              GENERAL INFORMATION:

APPLICANT: BEAUDOIN, Adrien R.

APPLICANT: BACH, Fritz H.

APPLICANT: BACH, Fritz H.

APPLICANT: BACH, Fritz H.

APPLICANT: BACH, Fritz H.

APPLICANT: BACH, Fritz H.

APPLICANT: BACH, Fritz H.

APPLICANT: BACH, Fritz H.

APPLICANT: BACH, Fritz H.

APPLICANT: ROBSON, SIMON STP-DIPHOSPHOHYDROLASES, PROCESS OF PURIFICATION

TITLE OF INVENTION: THEREOF AND PROCESS OF PRODUCING THEREOF BY RECOMBINANT

TITLE OF INVENTION: THEREOF AND PROCESS OF PRODUCING THEREOF BY RECOMBINANT

TITLE OF INVENTION: THEREOF AND PROCESS OF PRODUCING THEREOF BY RECOMBINANT

FILE REFERENCE: 200313.90019

CURRENT PRILING DATE: 1995-04-10

FRIOR FILING DATE: 1996-04-10

FRIOR FILING DATE: 1996-04-10

FRIOR FILING DATE: 1996-02-01

NUMBER OF SEQ ID NOS: 8

SOFTWARE: PALENTIN VET. 2.1

SEQ ID NO 1

LENGTH: 510
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100.0%; Pred. No. 3.4e-243;
ive 0; Mismatches 0; Indels
Sequence 1, Application US/09781796C
Patent No. 6800284
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US-09-240-639-4
Sequence 4, Application US/09240639
Patent No. 635047
GENERAL INFORMATION:
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Best Local Similarity 100.0
Matches 439; Conservative
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ORGANISM: Homo sapiens
                                        GENERAL INFORMATION:
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GENERAL INFORMATION:
APPLICANT: Chadwick, Brian Paul
APPLICANT: Chadwick, Brian Paul
APPLICANT: Chadwick, Brian Paul
APPLICANT: Chadwick, Brian Paul
APPLICANT: Frischauf, Anna Maria
TITLE OF INVENTION: METHODS AND COMPOSITIONS RELATING TO CD39-LIKE POLYPEPTIDES AND
TITLE OF INVENTION: ACIDS
FILE REFERENCE: 28110/36120E
CURRENT APPLICATION NUMBER: 08/09/908,510A
CURRENT FILING DATE: 2001-07-13
FRIOR FILING DATE: 1999-01-29
NUMBER OF SEQ ID NOS: 32
SOFTWARE: PATCHT IN VERSION 3.1
SEQ ID NO 4
FROM THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF T
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APPLICANT: Chadwick, Brian Paul
APPLICANT: Friechauf, Anna-Maria
TITLE OF INVENTION: METHODS AND COMPOSITIONS RELATING TO CD39-LIKE
TITLE OF INVENTION: POLYBEPTIDES AND NUCLEIC ACIDS
FILE REFERENCE: 9598-066
CURRENT APPLICATION NUMBER: US/09/240,639
CURRENT PILING DATE: 1998-01-29
NUMBER OF SEQ ID NOS: 2.0
SEQ ID NO 4.2
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; Pred. No. 1.3e-88;
79; Mismatches 168;
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Best Local Similarity 41.5%
Matches 180; Conservative
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ORGANISM: Homo sapiens
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CRGANISM: Homo Sapiens
US-09-908-510A-4
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SYC-PYSOCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPW 368
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TQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVA-SNEI
                                                               285 LTNPCYPRDYSISFIMGHVFDSLCTVDQRPESYNPNDVITFEGTGDPSLCKEKVASIFDF
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APPLICANT: Chadwick, Anna-Maria
APPLICANT: Chadwick, Anna-Maria
APPLICANT: Chadwick, Anna-Maria
TITLE OF INVENTION: POLYPEPTIDES AND NUCLBIC ACIDS
FILE REPERENCE: 9598-066
CURRENT APPLICATION NUMBER: US/10/107, 660
CURRENT FILING DATE: 2002-03-27
PRIOR APPLICATION NUMBER: US/09/240, 639
PRIOR FILING DATE: 1998-01-29
NUMBER OF SEQ ID NOS: 29
SOFTWARE: Patentin Ver. 2.0
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Best Local Similarity 41.5%; Pred. No. 1.3e-88;
Matches 180; Conservative 79; Mismatches 168;
                                                                                                                                                                                                                                                                                                                                                                                                       ; Sequence 4, Application US/10107660; Patent No. 6780977; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                 429 MLNLTNMIPAEOPL 442
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464 MLSLTNOIPAESPL 477
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US-10-107-660-4
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APPLICANT: Chadwick, Anna Maria
APPLICANT: Chadwick, Anna Maria
APPLICANT: Frischauf, Anna Maria
TITLE OF INVENTION: METHODS AND COMPOSITIONS RELATING TO CD39-LIKE POLYPEPTIDES 1
TITLE OF INVENTION: ACIDS
TITLE OF INVENTION: ACIDS
FILE REPERENCE: 28110/36120A
CURRENT FILING DATE: 2001-07-13
PRIOR APPLICATION NUMBER: 09/240,639
PRIOR FILING DATE: 1999-01-29
NUMBER OF SEQ ID NOS: 32
SOFTWARE: PatentIn version 3.1
SEQ ID NO 4
LENGTH: 529
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llarity 41.5%; Pred. No. 1.3e-88;
Conservative 79; Mismatches 168;
                        Query Match
38.0%; Score 910.5; DB 4;
Best Local Similarity 41.5%; Pred. No. 1.3e-88;
Matches 180; Conservative 79; Mismatches 168;
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Best Local Similarity
Matches 180; Conserv
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GENERAL INFORMATION:
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APPLICANT: Chadwick, Brian Paul
APPLICANT: Chadwick, Brian Maria
APPLICANT: Criscoloria Maria
TITLE OF INVENTION: McTHODS AND COMPOSITIONS RELATING TO CD39-LIKE POLYPEPTIDES AND
TITLE OF INVENTION: ACIDS
TITLE OF INVENTION: ACIDS
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TITLE OF INVENTION: ACIDS
TOWNER: 1999-01-29
NUMBER OF SEQ ID NOS: 32
SOFTWARE: PATENT IN VERSION 3.1
SEQ ID NOS: 42
LENGTH: 529
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                                73 NEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSN 132
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US-10-107-576-4
; Sequence 4, Application US/10107576
; Patent No. 6783959
                                                                              MLNLTNMIPAEOPL 442
                                                                                                                464 MLSLTNQIPAESPL 477
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ORGANISM: Homo Sapiens
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US-09-905-732B-4
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Sequence 4, Application US/09905732B Patent No. 6787328

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APPLICANT: Chadwick, Brian Paul
APPLICANT: Chadwick, Anna Maria
APPLICANT: Erischauf, Anna Maria
TILLE OF INVENTION: METHODS AND COMPOSITIONS RELATING TO CD39-LIKE POLYPEPTIDES AND FILE REFERENCE: 28110/361208
CURRENT APPLICATION NUMBER: US/09/905,7328
CURRENT APPLICATION NUMBER: 09240,639
PRIOR APPLICATION NUMBER: 09240,639
PRIOR FILING DATE: 1999-01-29
SOFFWARE: Patentin version 3.1
SEQ ID NO 4
LENGTH: 529
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APPLICANT: INFORMATION:
APPLICANT: UTANG, FENG
TITLE OF INVENTION: DETECTION AND DIAGNOSIS OF SMOKING RELATED CANCERS
FILE REPERENCE: UTSC:658US
CURRENT APPLICATION NUMBER: US/09/923,304
CURRENT FILING DATE: 2001-08-06
NUMBER OF SEQ ID NOS: 11
SOFTWARE: PATENTIN Ver. 2.1
SEQ ID NOS: 11
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US-00-923-304-4
Sequence 4, Application US/09923304;
Patent No. 6797471
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464 MLSLTNQIPAESPL 477
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ORGANISM: Homo Sapiens
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ORGANISM: Homo sapiens
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COMPOSITIONS RELATING TO CD39-LIKE POLYPEPTIDES AND
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                              TOVTFVPQNOTIESPDNALOFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVA-SNEI
                                                                                                                                                                                                                                              EBIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGY
                                                                                                                                                                                                                                                                                                                  YPPDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGAS
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Best Local Similarity 41.5%; Pred. No. 1.3e-88;
Matches 180; Conservative 79; Mismatches 168;
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GREAT INFORMATION:
APPLICANT: Chadwick, Brian Paul
APPLICANT: Chadwick, Brian Maria
TITLE OF INVENTION: METHODS AND COMPOSITIONS
TITLE OF INVENTION: ACIDS
FILE REFERENCE: 28110/36120C
CURRENT APPLICATION NUMBER: US/09/905,743B
CURRENT FILING DATE: 2001-07-13
PRIOR APPLICATION NUMBER: 09/240,639
PRIOR APPLICATION NUMBER: 09/240,639
PRIOR FILING DATE: 1999-01-29
NUMBER OF SEQ ID NOS: 32
SOFTWARE: PATENTIN Version 3.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; Sequence 4, Application US/09905743B
; Patent No. 6828423
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US-09-905-743B-4
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Sequence 6049, Application US/09949016

Patent No. 6812339

GENERAL INFORMATION:

APPLICANT: VENTER, J. Craig et al.

APPLICANT: VENTER, J. Craig et al.

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF

FILE REFERENCE: CL001307

CURRENT APPLICATION NUMBER: US/09/949,016

CURRENT FILING DATE: 2000-04-14

PRIOR APPLICATION NUMBER: 60/241,755

PRIOR FILING DATE: 2000-10-03

PRIOR FILING DATE: 2000-10-03

PRIOR FILING DATE: 2000-09-08

NUMBER OF SEQ ID NOS: 207012

SOFTWARE: FastSEQ for Windows Version 4.0

LENGTH: 529
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                                                                      13 ONKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQKV
                                                                                          NEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSN
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                                     Gaps
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 DB 4; Length 529;
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atch 38.0%; Score 910.5; DB 4; Length cal Similarity 41.5%; Pred. No. 1.3e-88; 180; Conservative 79; Mismatches 168; Indels
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464 MLSLTNQIPAESPL 477
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US-09-949-016-6049
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APPLICANT: VENTER, J. Craig et al.

APPLICANT: VENTER, J. Craig et al.

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF;

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF;

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF;

CURRENT APPLICATION NUMBER: 06/241,755

PRIOR APPLICATION NUMBER: 60/241,755

PRIOR PELLING DATE: 2000-10-20

PRIOR FILING DATE: 2000-10-03

PRIOR FILING DATE: 2000-10-03

PRIOR FILING DATE: 2000-09-08

NUMBER OF SEQ ID NOS: 207012

SOFTWARE: FaetSEQ for Windows Version 4.0

LENGTH: 556
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345 KACHDQETCSFDGVYQPKIKGPFVAFAGFYYTASALNL-SGSFSLDTFNSSTWNPCSQNW 403
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134 QDVPRAPEECMQKVKGQVPSHLHGSTPIHLGATAGMRLLRLQNETAANEVLESIQSYFKS 193
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                                                                            NEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSN
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                                                      369 BEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHPIGKIQGSDAGWTLGY
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Patent No. 6812339
                                                                                                                       429 MLNLTNMIPAEQPL 442
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464 MLSLTNQIPAESPL 477
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491 MLSLTNQIPAESPL 504
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; ORGANISM: Human
US-09-949-016-11328
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PATENT NO. 6812339
GENERAL INFORMATION:
APPLICANT: VENTER, J. Craig et al.
TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED
TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF
FILE REPERENCE: CL001307
CURRENT APPLICATION NUMBER: US/09/949,016
CURRENT APPLICATION NUMBER: 60/241,755
PRIOR APPLICATION NUMBER: 60/241,755
PRIOR PELING DATE: 2000-10-20
PRIOR FILING DATE: 2000-10-03
PRIOR FILING DATE: 2000-10-03
PRIOR APPLICATION NUMBER: 60/231,498
PRIOR FILING DATE: 2000-09-09
NUMBER OF SEQ ID NOS: 207012
SOFTWARE: FREESQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             189 GGASTQVTFVPQNQTIESPDNA--LQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQV 246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       266
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301 QSILELFNTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFL--NLTSEKVSQEKVTE 358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               359 MMKKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQ 418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ----QLLSRGYGFDERAFGGVIFQKKAA 414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               12 TONKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 210 GGASTQITF---ETTSPAEDRASEVQLHLYGQHYRVYTHSFLCYGRDQVLQRLLASALQT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            267 HGFH----PCWPRGFSTQVILGDVYQSPCT----MAQRPQNFNSSARVSLSGSSDPHLCR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           72 VNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       132 NYPEDFOGARIITGQEEGAYGWITINYLLG---KFSQKTRWFSIVPYETNNQETFGALDL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                54;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 479;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          36.1%; Score 865; DB 4; Length 47
41.3%; Pred. No. 8.3e-84;
iive 69; Mismatches 137; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Search completed: March 7, 2005, 13:27:59 Job time: 21.1771 secs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 11559, Application US/09949016
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 379 AAVNVČNOTWAQ------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 36.1%
Best Local Similarity 41.3%
Matches 183; Conservative
JS-09-949-016-11559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM: Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-09-949-016-11559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQ ID NO 11559
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GenCore version 5.1.6

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OM protein - protein search, using sw model

Run on: March 7, 2005, 12:59:07; Search time 13.7943 Seconds (without alignments)

3117.881 Million cell updates/sec

Title: US-09-835-147A-29_COPY_27_473

Perfect score: 2385
Sequence: 1 KKTQLTSSTQNKALPENVKY......NLTNMIPAEQPLSTPLSHST 447

Scoring table: BLOSUM62
Gapop 10.0, Gapext 0.5
Searched: 283416 seqs, 96216763 residues
```

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

' PIR_79:*
1: pir1:*
2: pir2:*
3: pir2:*
4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

		df			SUMMARIES	•
Result No.	Score	Query	Length	DB	ID	Description
	2348	98.4	510	10	I56242	lymphoid cell acti
7	505	21.2	483	~	D86276	hypothetical prote
3	469.5	19.7	405	~	E86276	
4	453	19.0	630	7	S50463	hypothetical prote
ഗ	416	17.4	572	7	T40856	_
9	406.5	17.0	516	7	G84442	probable nucleosid
7	402.5	16.9	485	7	T34147	hypothetical prote
80	394.5	16.5	508	7	C86276	7A19.33 protein -
o	383.5	16.1	557	~	T16696	hypothetical prote
10	381.5	16.0	556	7	T39109	probable quanosine
11	374	115.7	455	7	S48859	nucleoside triphos
12	338	14.2	454	~	JC4616	apyrase (EC 3.6.1.
13	332	13.9	1052	~	T04439 ·	hypothetical prote
14	328.5	13.8	479	~	T23508	hypothetical prote
15	322.5	13.5	518	~	A40732	guanosine-diphosph
16	167	7.0	628	~	A55421	nucleoside-triphos
17	103	4.3	369	~	877299	C4-dicarboxylase-b
18	101.5	4.3	716	~	T21516	hypothetical prote
19	100	4.2	307	~	T27332	
20	66	4.2	1951	~	B43963	RNA viral polymera
21	98.5	4.1	290	~	AB1411	٠.
22	98.5	4.1	797	7	D86247	hypothetical prote
23	98.5	4.1	989	~	B84532	_
24	98.5	4.1	1509	~	B89985	~
25	98	4.1	371	N	T05213	
56	86	4.1	665	~	T18979	D,
27	98	4.1	3848	~	T17414	
	97.5	4.1	392	7	7	hypothetical prote
29	97	4.1	466	7	JC6525	processing peptida

429 LINMIPAEQPLSTPLSHST 447

8 6 8

probable histidine	probable fimbrial	myosin I beta - bu	(R) -2-hydroxygluta	hypothetical prote	serine/threonine k	spore germination	Mg2+ transporter h	probable permease	probable permease	hypothetical prote	lacticin 481/lacto	two-component hybr	hypothetical 51.7	hypothetical prote	probable dnaK prot	
T03774	B85725	151173	A72369	F89770	AG2391	B48583	G69859	G91228	F86075	815962	T43110	AH2090	H65192	T21251	A90715	
~	~	~	7	~	N	-	~	~	7	~	~	7	~	~	~	
494	883	1028	1415	591	1900	288	451	461	461	564	927	1299	468	404	556	
4.1	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.9	3.9	3.9	3.9	
97	96	96	96	95.5	95.5	92	95	95	92	95	95	94	93	92.5	92.5	
30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	

ALIGNMENTS

283416

Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 200000000

RESULT 1 156242 (Impuboid cell activation antigen - human C; Species: Homo sapiens (man) C; Date: 02-Jul-1996 #sequence_revision 02-Jul-1996 #text_change 09-Jul-2004 C; Accession: 156242 C; Accession: 156242 J. Immunol. 153, 3574-3583, 1994 A; Title: The CD39 lymphoid cell activation antigen. Molecular cloning and structural cha A; Airtle: The CD39 lymphoid cell activation antigen. Molecular cloning and structural cha A; Airtle: preliminary; translated from GB/EMBL/DDBJ A; Molecula type: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Molecula cype: mRNA A; Mole	Query Match Best Local Similarity 100.0%; Pred. No. 2e-182; Matches 439; Conservative 0; Mismatches 0; Indels 0; Gaps 0;	TQNKALPENVKYGIVLDAGSSHTSLYIYKMPAEKENDTGVYHQVEECRVKGPGISKFVQK 68 	VNEIGIYLTDCMERAREVIPRSQHOETPVYLGATAGMRLLEMESEELADRVLDVVERSLS 128 	NYPFDFOGARIITGOEGGAYGWITINYLLGKFSOKTRWFSIVPYETUNOETFGALDLGGA 188 	STOVTFVPONOTIESPDNALOFRLYGKDYNVYTHSFLCYGKDOALWOKLAKDIQVASNEI 248 	LRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIGGIGNYQQCHQSILELFNTSY 308 	CPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSGEKVTEWMKKFCAQPWEEI 368 	KTSYAGVKEKYLSEYCFSGTYILSLLLOGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLN 428
activatic o sapiens -1996 #se 56242 C.R.; D G.R.; D 3, 3574; 039 lympl mber: 155 mber: 155 mkNA e: mkNA e: mkNA e: mkNA mces: UN	imilarity ; Conse	TONKALPER TONKALPER	VNEIGIYL) VNEIGIYL)	NYPFDFQG/ NYPFDFQG/	STQVTFVP(LRDPCFHPC	CPYSQCAFI CPYSQCAFI	KTSYAGVKO KTSYAGVKO
RESULT 1 156242 1ymphoid cell activat C'Species: Homo sapie C'Date: 02-Uul-1996 # C'Accession: 156342 R'Maliszewski, C.R.; Maliszewski, C.R.; A'Ithe: The CD39 lym A'Reference number: 1 A'Reference number: 1 A'Reference number: 1 A'Rocession: 156342 A'Status: preliminary A'Molecule type: mRNA A'Residues: 1-510 eRE A'CCS98-references: U C'Superfamily: nucleo	Query Match Best Local Sim Matches 439;	0 8 0 8	86	129 1	189 6	249 1	309 (369 1
RESULT 1 156242 176242 C; Date: C; Date: C; Access C; Access A; Title: A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access A; Access Access A; Access A; Access A; Access A; Access A; Access A; Acces	Query Ma Best Loc Matches	දු පු	දු දු	& 8	දු දු	දු පු	& 8	රු සි

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Query Match
Best Local Similarity
Matches 130; Conserva
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RESULT 2

D86276

hypochetical protein F7A19.34 [imported] - Arabidopsis thaliana
C; Species: Arabidopsis thaliana (mouse-ear cress)
C; Date: O2-Mar-2001 #sequence_revision O2-Mar-2001 #text_change 09-Jul-2004
C; Species: Arabidopsis thaliana (mouse-ear cress)
C; Date: O2-Mar-2001 #sequence_revision O2-Mar-2001 #text_change 09-Jul-2004
C; Accession: D86276
R; Theologis, A.; Ecker, J.R.; Palm, C.J.; Federspiel, N.A.; Kaul, S.; White, O.; Alonso, C., Rithin, C.W.; Chung, M.K.; Conn, L.; Conway, A.B.; Conway, A.R.; Creasy, T.H.; Dewar, K.; ansen, N.F.; Hughes, B.; Huizar, L.
Nature 408, 816-820, 2000
A; Authors: Hunter, J.L.; Jenkins, J.; Johnson-Hopson, C.; Khan, S.; Khaykin, E.; Kim, C.C.A.; Li, J.H.; Li, Y.; Lin, X.; Liu, S.X.; Liu, Z.A.; Luros, J.S.; Maiti, R.; Marziali, Rizzo, M.; Ronory, T.; Rowley, D.; Sakano, H.
Rizzo, M.; Ronory, T.; Rowley, D.; Sakano, H.
A; Authors: Salzberg, S.L.; Schwartz, J.K.; Shinn, P.; Southwick, A.M.; Sun, H.; Tallon, A; Reference number: A86141; MUID:21016719; PMID:11130712
A; Accession: D86276
A; Status: preliminary
A; Residues: 1-483 <STO>
A; Cross-references: UNIPROT:Q9X162; GB:AE005172; NID:95080801; PIDN:AAD39311.1; GSPDB:GN
B; Ann position: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 hypothetical protein F14L17.1 - Arabidopsis thaliana
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Species: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004
C;Accession: E86276
R;Theologis, A.; Ecker, J.R.; Palm, C.J.; Federspiel, N.A.; Kaul, S.; White, O.; Alonso, Chin, C.W.; Chung, M.K.; Conn, L.; Conway, A.B.; Conway, A.R.; Creasy, T.H.; Dewar, K.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     248 -ILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQG----IGNYQQCHQSILE 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LLKEGKENČLÝEHČSIGSTĚTPDLÓGSFLATASFÝYTAKFPEL-EEKGWLSELIPAGKRY 395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CAQPWBEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            68 LRYSVLIDAGSSGTRVHVFGYWFESGKPVFDFGEKHY---ANLKLTPGLSSYADNPEGAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VTFVPQNQTIESPDNALQFRLYGK-DYNVYTHSFLCYGKDQALWQKLAKDIQVASNE---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             74 IYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSL--SNYP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LF--NTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSBKVSQBKVTBMMKKF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   18 VKYGIVLDAGSSHTSLYIYKWPAEKEN---DTGVVHQVEECRVK-GPGISKFVQKVNEIG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PDPDGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGASTQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             62;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 483;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 21.2%; Score 505; DB 2; Length 48: Best Local Similarity 31.3%; Pred. No. 5.6e-33; Matches 135; Conservative 70; Mismatches 164; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Map position: 1, subleoside triphosphatase chromatin-associated Superfamily: nubleoside
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EKHIPLDWALG 460
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ansen, N.F.; Hughes, B.; Huizar, L.

Nature 408, 816-820, 2000

A;Authors: Hunter, J.L.; Jenkins, J.; Johnson-Hopson, C.; Khan, S.; Khaykin, B.; Kim, C., C.A.; Li, J.H.; Li, Y.; Liu, S.X.; Liu, Z.A.; Luros, J.S.; Maiti, R.; Marziali, Rizzo, M.; Rooney, T.; Rowley, D.; Sakano, H.

A;Authors: Salzberg, S.L.; Schwartz, J.R.; Shinn, P.; Southwick, A.M.; Sun, H.; Tallon, J. A;Authors: Salzberg, S.L.; Schwartz, J.R.; Shinn, P.; Southwick, A.M.; Sun, H.; Tallon, J. A;Tile: Sequence and analysis of chromosome 1 of the plant Arabidopsis.

A;Reference number: A86141; MUID:21016719; PMID:11130712

A;Accession: E86276

A;Accession: E86276

A;Accession: E86276

A;Accession: E86276

A;Residues: 1-405 <STO>
A;Cross-references: UNIPROT:Q9M9T7; GB:AE005172; NID:g7262666; PIDN:AAF43924.1; GSPDB:GN-C;Genetics:
A;Map position: 1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QQFEIQGIGNYQQCHQSILELF--NTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKF 340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        298 FGL-GEK---EWLSEMILAGKRFCGEEWSKLKEKYPTTKDKYLHRYCFSSAYIISMLHDS 353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    120 LDVVERSLSNYPFDFQG--ARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQ 177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ----REEMTLPF 282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            C; Species: Saccharomyces cerevisiae (; Species: Saccharomyces cerevisiae) C; Species: Saccharomyces cerevisiae C; Date: 28-May-1993 #sequence_revision 24-Peb-1995 #text_change 09-Jul-2004 C; Date: 28-May-1993 #sequence_revision 24-Peb-1995 #text_change 09-Jul-2004 C; Date: 250463 #s. Piletrich, F.S. submitted to the EMBL Data Library, December 1994 A; Reference number: S50433 A; Reference number: S50463 A; Molecule type: DNA A; Residues: 1-630 -DISA A; Residues: 1-630 -DISA A; Ctoss reference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      341 INLTSEKVSQEKVTEMM---KKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       --- QVQAAGDFTKCRSATLAMLQEGKENCAYKHCSIGSTFTPNIQGSFLATENFFHTSKF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              178 ETFGALDLGGASTQVTFVPQNQTIESPDNALQFRLYGK-DYNVYTHSFLCYGKDQA---L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    60 PGISKFVQKVNEIGIYLTDCMERAREVIPRSOHQETPVYLGATAGMRLLRMESEELADRV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ||-|| : :| :||||||| : :|
PGLSSYADNPEGASVSVTKLVEFAKGRIPKGKLKKSDIRLMATAGMRLLDVPVQE---QI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61; Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 405;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  234 WQKLAKDIQVASNE-ILRDPCFHPGYKKVVNVSDLYKTPCTK----
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ilarity 27.2%; Pred. No. 1.4e-28;
Conservative 91; Mismatches 153;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity 31.2%; Pred. No. 3.3e-30;
Matches 123; Conservative 65; Mismatches 145;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               398 YHFTADSWEHIHFIGKI--QGSDAGWTLG-YMLN 428
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A,Cross-references: SGD:S0000807
A,Map position: 5R
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È	17 NVKYGIVLDAGSSHTSLYIYKMPAEKENDIGVVHQVEECRVK-GPGI 62	hy 224 NEANDENIGHTERENGYLENITHEREDGETTER 263
qq	7 NDRFGIVIDAGSSGSRIHVFKWQDTESLLHATNQDSQSILQSVPHIHQEKDWTFKLNPGL 66	SAS NEWSTANT LUCILLESSENGY CONTESSENGT TO THE STATE OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF
<u>ک</u> ج	63 SKFVQKVNE-IGIYLIDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLD 121 : :: :: :	regions of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the s
}	VVESTSINYPEPPOGNETINGESCRAFTINGESCREEN	OY 346 EKVSQEKVTEMMKKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTY 389
Q _Q	124 GLCQGL-KHPAEFLVEDCSAQIQVIDGETEGLYGWLGLNYLYGHFNDYNPEVS 175	340 TISILI OCENTRANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SALANDANE SA
රු සි	176 NQETFGALDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTH 222	377 ALNVLHEGFDVPKSNTSSNDAKDGLSVIPAYHSPFTSLEKIERTEVSWTLGQVL
상 원	223 SFLCYGKDQALWQKLAKDIQVASNEILRDPCFHPGYKKVVNVSDLYKT 270 :: : : : : :	RESULT 6 G84442 probable nucleoside triphosphatase [imported] - Arabidopsis thaliana
& A	271 PCTKRFEMTLPFQQFEIQGIGNYQQCHQSILE-LFNTSYCPYSQCAFNGIFLPPLQGDF- 328	C:Species: Arabidopsis thaliana (mouse-ear cress) C;Date: 02-Peb-2001 #sequence_revision 02-Peb-2001 #text_change 09-Jul-2004 C;Accesion: 684442. R;iin, X.; Kaul. S.; Rounslev, S.D.; Shea, T.P.; Benito, M.I.; Town, C.D.; Fulii, C.Y.;
č	329GAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEEIKTSYAGVKEK 378	M.; Koo, H.; Moffat, K.S.; Cronin, L.A.; Shen, M.; VanAken, S.E.; Umayam, L.; Tallon, L., euss, D.; Nierman, W.C.; White, O.; Eisen, J.A.; Salzberg, S.L.; Fraser, C.M.; Venter, J. Nature 402, 761-768, 1999
8 & B	332 NDKPIGTSEYWYTANDVFKLGGE-YNFDKFSKSLRBFCNSNWTQILANSDKGVYNSIPEN 390 379 YLÄBYCFSGTYILSLLLOGYHPTADSWEHIHFIGKIOGSDAGWTLGYML 427	A;Title: Sequence and analysis of chromosome 2 of the plant Arabidopsis thalians. A;Reference number: A84420; MUID:20083487; PMID:10617197 A;Accession: G84442
원		A;Status: preliminary A;Molecule type: DNA A;Residues: 1-516 <sto> A:Cross-references: UNIPROT:080612; GB:AE002093; NID:03461821; PIDN:AAC32915.1; GSPDB:GN</sto>
RESULT T40856 probabl C;Speci	5 enucleotide phosphatase - fission yeast (Schizosaccharomyces pombe)	
C; Date C; Acces R; RamsE submitt	: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 09-Jul-2004 ssion: T40856 Bohl, T.; Wood, V.; Rajandream, M.A.; Barrell, B.G. ed to the EMBL Data Library, October 1999	Query Match Best Local Similarity 27.5%; Pred. No. 6e-25; Matches 117; Conservative 68; Mismatches 187; Indels 53; Gaps 13;
A; Rete: A; Acce: A; Statt A; Molec	ence number: Z21952 nsion: T40856 se: preliminary; translated from GB/EMBL/DDBJ ule type: DNA	Qy 17 NVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVK-GPGISKFVQKVNEIGIY 75 :: :::: : : bb 65 SLRYSVVIDGGSTGTRIHVFGYRIESGKPVFEFRGANYASLKLHPGLSAFADDPDGASVS 124
A, Resid A, Crost A, Exper C, Genet		Qy 76 LTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSNYPPD 133 : :
A,Gene: A,Map p	A.Gene: SPDB:SPCC1 <u>1</u> E10.05c A.Map position: 3	Oy 134 FQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGASTQVT 193
Query Ma Best Loc	tch al Similarity 27.3%; Pred. No. 1.2e-25;	182 DEWASVISGSDEGVYAWVVANFALGSLGGDPLKTTGIVELGGASAQVT
Matc) Qy		Qy 194 FVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALW-QKLAKDIQVAS 245
Ор		Qy 246 NEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQPEIQGIGNYQQCHQSILELFN 305
දු දු	67 QKVNEIG-IYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVVER 125 : :	Db 288 EKİFTÜPCAPKGYNLDANTQKHLSGLLAEESRLSDSFQAGGNYSQCRSAALTILQ 342 Ov 306 TSYCPYSOCAFNGIFLPPLOGDFGAFSAPYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPW 365
ò	SL-SNYPPDFQGARIITGQEEGAYGMITINYLLGKFSQKTRWFSIVPYETUNQETF	343 DGGRILIIIAGFSFLFFGLGEKAMLSNMISAGERFCGEDW
q	121 YIKKNYDFDIPNCSNSIRVIDGKAEGMYGWLATNYLLKTLEEKDTSTV 168	Qy 366 BEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHPIGKIQGSDAGWTLGY 425
۵ ا	181 GALDLGGASTQVTF-VPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGK 229	Db 384 SKIRVKDPSLHBEDLLRYCFSSAYIVSLLHDTLGIPLDD-BRIGYANQAGDIPLDWALGA 442
}		443 FIQOT

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A;Authors: Salzberg, S.L.; Schwartz, J.R.; Shinn, P.; Southwick, A.M.; Sun, H.; Tallon, I ker, M.; Wu, D.; Yu, G.; Fraser, C.M.; Venter, J.C.; Davis, R.W.
A;Title: Sequence and analysis of chromosome 1 of the plant Arabidopsis.
A;Reference number: A86141; MUID:21016719; PMID:11130712
A;Accession: C86276
A;Scatus: preliminary
A;Molscule type: DNA
A;Residues: 1-508 «STO-A;Cross-references: UNIPROT:QSXI63; GB:AE005172; NID:g5080800; PIDN:AAD39310.1; GSPDB:GN-C;Gnettics:
C;Genetics:
C;Genetics:
C;Superfamily: nucleoside triphosphatase chromatin-associated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    247 E----ILRDPCFHPGYKKVVNV-SDLYKTPCTK-RFEMTLPFQQFEIQGIGNYQQCHQSI 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301 LELF--NTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMM- 357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   321 FAMLQBEKGKCTYKRCSIGSIFTPNLQGSFLATENFFHTSKFFGL-GEK---EWLSEMIL 376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              76 LIDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSNYPFDFQ 135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       136 GARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNN-QETFGALDLG-----GA 188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -----RDEWASVISEILENFÖDLMKVYMLGLLLIMRSV 211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     268 STGEGİVPÜPCIPKĞYILETNLQKDLPGFLADKGKFTATL-----QAAGNFSECRSAA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         189 STQVTFVPQNQTIESPDNALQFRLYGK-DYNVYTHSFLCYGKDQALWQKLAKDI-QVASN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 17 NVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVK-GPGISKFVQKVNEIGIY
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 16.5%; Score 394.5; DB 2; Length Best Local Similarity 28.2%; Pred. No. 5.6e-24; Matches 123; Conservative 71; Mismatches 171; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GSD--AGWTLG-YMLN 428
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C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004
C;Date: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004
C;Accession: C86276
R;Theologis, A.; Ecker, J.R.; Palm, C.J.; Federspiel, N.A.; Kaul, S.; White, O.; Alonso, Chin, C.W.; Chung, M.K.; Conn, L.; Conway, A.B.; Conway, A.R.; Creasy, T.H.; Dewar, K.; ansen, N.F.; Hughes, B.; Huizar, L.
Abaute, 408, 816-820, 208
A;Authors: Hunter, J.L.; Jenkins, J.; Johnson-Hopson, C.; Khan, S.; Khaykin, E.; Kim, C.C.A.; Li, J.H.; Li, Y.; Lin, X.; Liu, S.X.; Liu, Z.A.; Luros, J.S.; Maiti, R.; Marziali, Rizzo, M.; Rooney, T.; Rowley, D.; Sakano, H.
                                                                                                                                                     hypothetical protein C33H5.14 - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 29-Oct-1999 #sequence_revision 29-Oct-1999 #text_change 09-Jul-2004
C;Date: 29-Oct-1999 #sequence_revision 29-Oct-1999 #text_change 09-Jul-2004
C;Accession: T34147
R;Bradshaw, H: 5 tellyes, L.
R;Bradshaw, H: 5 tellyes, L.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     73 GIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSNYPF 132
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     133 DFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGASTQV 192
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match | 16.9%; Score 402.5; DB 2; Length Best Local Similarity 26.7%; Pred. No. 1.2e-24; Matches 116; Conservative 69; Mismatches 187; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    248 GNS--NDSCSPRGLNRLIG-----
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 413 KIQGSDAGWTLGYML 427
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hypothetical protein R07E4.4 - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 20-Sep-1999 #sequence_revision 20-Sep-1999 #text_change 20-Sep-1999
C;Date: 20-Sep-1999 #sequence_revision 20-Sep-1999 #text_change 20-Sep-1999
C;Date: 20-Sep-1999 #sequence_revision 20-Sep-1999
C;Accession: T16696
R;Miller, N
submitted to the EMBL Data Library, October 1995
A;Description: The sequence of C. elegans cosmid R07E4.
A;Reference number: 218561
A;Accession: T16696
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-557 < MILD
A;Residues: 1-557 < MILD
A;Residues: EMBL:U39652; NID:g1049390; PID:g1049394; PIDN:AAA80403.1; CESP:R07E4
A;Experimental source: strain Bristol N2
C;Genetics:
A;Genetics:
A;Genetics:
A;Genetics:
A;Chitzons: 39/1; 67/1; 145/2; 192/1; 244/3; 317/3; 451/3; 488/2
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Best Local Similarity 25.9%; Pred. No. 5e-23;
Matches 123; Conservative 85; Mismatches 194; Indels 73
EEDIPLDWALGAFILM 451
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246

75

Length 508;

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nucleoside triphosphatase precursor, chromatin-associated - garden pea C;Species: Pisum sativum (garden pea)
C;Species: Pisum sativum (garden pea)
C;Date: 13-Jan-1995 #sequence_revision 13-Jan-1995 #text_change 09-Jul-2004
C;Accession: S65147; 848859
R;Hsieh, H.L.; Tong, C.G.; Thomas, C.; Roux, S.J.
R;Hsieh, H.L.; Tong, C.G.; Thomas, C.; Roux, S.J.
A;Title: Light-modulated abundance of an mRNA encoding a calmodulin-regulated, chromatin A;Reference number: S65141; MUID:96197404; PMID:8616230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Molecule type: mRNA
A;Residues: 1-455 <HS2>
K;Cross-references: UNIPROT:P52914; EMBL:Z32743; NID:g563611; PIDN:CAA83655.1; PID:g5636
C;Superfamily: nucleoside triphosphatase chromatin-associated
C;Keywords: nucleus
                                                                                                          292 NYQQCHQSILELFNTSYCPYSQCAFNGIFLPPLQGDFG----AFSAFYFVMKFLNLTSE 346 .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          18;
  ----PCFHPGYKKVVNVSDLYKTPCTKRFEM-----TLPFQQFEIQGIG 291
                                           352 KESLELLGDSTSIIHPCLH-----LNASLTHPDSKSEASEVVFVGPSLAHLSLQCRGIA 405
                                                                                                                                                              E-----KALYKDKNCPVRPCSFNGVHQPKFTETFTDSPIYLISYFYDRMISLGMPS- 456
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 348 -VSQEKVTEMMKKPCAQPWEEIKTSYAGVKEKYLSEY-CPSGTYILSLLLQGYHFTADSW 405
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                                                                                                                                                                                                                                                             457 TFTIEDMKYLANSVCSGPTYWQDAFSLTDALKELKEEPBWCLDLNYMISLLSVGYEIPNN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              44 YAVVEDAGSTGSRIHVYHF----NQNLDLLHIGKGVEYYNKITPGLSSYANNPEQAAKSL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           100 IPLIEQAEDVVPDDLQPKTPVRLGATAGLRLINGDASS---KILQSVRDMLSNRSTFNVQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      157 PDAVSIIDGTQEGSYLWVTVNYALGNLGKK------YTKTVGVIDLGGGSVQMA
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C;Species: Schizosaccharomyces pombe
C;Species: Schizosaccharomyces pombe
C;Species: O3-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 09-Jul-2004
C;Accession: T39109
R;Barrell, B.G.; Rajandream, M.A.; Quail, M.; Seegar, K.; Harris, D.
B;Barrell, B.G.; Rajandream, M.A.; Quail, M.; Seegar, K.; Harris, D.
A;Reference number: Z21828
A;Accession: T39109
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                         74
                                                      YLTDCMERAREVI PRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSN-----
                                                                                                                                                                                                                                                                              SMQVLKEHIRIIEGKWEGIYSWIAVNYALGKFNKTATLDFPGTSPAHARQKTVGMIDMG
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                         ----TGVVHQVEECRVK-GPGISKFVQKVNEIGI
                                                                                                                                                                                                                                               --YPFDFQGARIITGQEEGAYGWITINYLLGKFSQ-KTRWFSIVPYETNNQETFGALDLG
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A; Experimental source: clone K08H10
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apyrase (EC 3.6.1.5) precursor - potato
NiAlternate names: adenylyprophosphatase; ATP-diphosphohydrolase
NiAlternate names: adenylyprophosphatase; ATP-diphosphohydrolase
C;Species: Solamum tubercosum (potato)
C;Date: 10-May-1996 #sequence_revision 19-Jul-1996 #text_change 09-Jul-2004
C;Species: 0n-May-1996 #sequence_revision 19-Jul-1996 #text_change 09-Jul-2004
C;Accession: Judgits; PC4147
B;Handa, M.; Guidotti, G
Biochem: Biophys. Res. Commun. 218, 916-923, 1996
A;Title: Purification and cloning of a soluble ATP-diphosphohydrolase (Apyrase) from pot
A;Title: Purification and cloning of a soluble ATP-diphosphohydrolase (Apyrase)
A;Title: Purification and cloning of a soluble ATP-diphosphohydrolase (Apyrase)
A;Accession: Judgits
A;Accession: Judgits
A;Accession: Dc441
A;Accession: PC414
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      287 IQGIGNYQQCHQSILELFN-TSYCPXSQCAFNGIFLPPLQGDFG------AFSAFYFVM 338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  344 AQVGIVDTKFPSALAKPIQYLNAAKVACQTNVADİKSIFPKTQDRNIPYLCMDLIYEYTL 403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            57 VKGPGISKFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELA 116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               188 -DYKSTTATIDLGGGSVQMAYAISNEQFAKAPQNEDGEPYVQQKHLMSKDYNLYVHSYLN 246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ----SSWKRCRRITRHALKINAKCNIEECTFNGVW----NGGGGDGQKNIHASSFFYDIG 343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KFLNLTSEKVSQE----KVTEMMKKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYILSL 393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    117 DRVLDVVB---RSLSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYE 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 23 LLSKNVNAQIPLRRHLLSHESEHYAVIFDAGSTGSRVHVFRFD-EKLGLLPIGNNIEYFM 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5 LISSIQNKALP-----BNVKYGIVLDAGSSHISLYIYKWPAEKENDIGVVHQVEECR
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14.2%; Score 338; DB 2; Length 45.
Best Local Similarity 24.8%; Pred. No. 1.8e-19;
Matches 116; Conservative 81; Mismatches 191; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    227
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A;Reference number: Z19750
A;Accession: T23508
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DMA
A;Residues: 1-479 cMIL-
A;Cross-references: UNIPROT: QSXU84; EMBL; Z83113; PIDN: CAB05544.1; GSPDB: GN00023; CESP: K0
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                                 Cipecies: Arabidopsis thaliana (mouse-ear cress)
Cipate: 30-Apr-1999 #sequence_revision 30-Apr-1999 #text_change 09-Jul-2004
Cipate: 30-Apr-1999 #sequence_revision 30-Apr-1999 #text_change 09-Jul-2004
Cipate: 30-Apr-1999 #sequence_revision 30-Apr-1999 #text_change 09-Jul-2004
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  842
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            119 VLDVVERSLSNYPFDF--QGARIITGQEEGAYGWITINY---LLGKFSQKTRWFSIVPYE 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Apporhetical protein KO8H10.4 - Caenorhabditis elegans C; Species: Caenorhabditis elegans C; Species: Caenorhabditis elegans C; Species: 15-Oct-1999 #text_change 09-Jul-2004 C; Accession: T23508 F; Gardner, A. Spardner, A. Submitted to the EMBL Data Library, November 1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       341 INLTSEKVSQEKVTEMMKKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       793 SGVSIKLVGAPNWGEC-----SALAKNAPCALPDGY-PRPHGQFYAVSGFFVVYRF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               60 PGISKFVQKVNEIGIYLTDCMERAREVIPRSOHQETPVYLGATAGMRLLR-MESEELADR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      174 INNOETEGALDIGGASTOVTEVPONOTIESPDNALOFRLYGKDYNVYTHSFLCYGKDOA-
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A;Introns: 36/3; 83/3; 189/1; 300/2; 412/3
C;Superfamily: nucleoside triphosphatase chromatin-associated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Match 13.9%; Score 332; DB 2; Length 10 Local Similarity 26.9%; Pred. No. 1.9e-18; Indels 104; Conservative 70; Mismatches 149; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Map position: 4
A;Introns: 79/3; 118/3; 217/1; 295/3; 396/3; 531/2; 815/3
A;Note: T18B16.150
hypothetical protein T18B16.150 - Arabidopsis thaliana
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Length 479;

5

B

13.8%; Score 328.5;

Query Match

RESULT 13

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A;Description: hydrolase C;Superfamily: nucleoside triphosphatase chromatin-associated C;Superfamily: nucleoside triphosphatase; hydrolase; transmembrane protein C;Keywords: alycoprotein; Golgi apparatus; hydrolase; transmembrane protein F;10-24/Domain: transmembrane #status predicted c?10-24/Domain: transmembrane #status predicted c?11,280,335/Binding site: carbohydrate (Asn) (covalent) #status predicted
           position: 5L
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A; Note: sequence extracted from NCBI backbone (NCBIN: 134708, NCBIP: 134711)
A; Accession: B40732
A; Molecule type: protein
A; Rolecule type: protein
A; Residues: 125-144;238-257;276-281;366-374;399-412 <AB2>
K; Mulligan, J.T.; Dietrich, F.S.; Hennessey, K.M.; Sehl, P.; Komp, C.; Wei, Y.; Taylor, Submitted to the EMBL Data Library, February 1993
A; Residues: 1-518 <AULD:
A; Residues: 1-518 <AULD:
A; Residues: 1-518 <AULD:
A; Cross-references: GB: U18779; EMBL: L10830; NID: 9603625; PIDN: AAB65000.1; PID: 9603637
A; Description: The sequence of S. cerevisiae cosmids 8199, 8334, and 9871.
A; Recenter number: S50491
A; Recenter number: S50491
A; Recenter number: S10491
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N;Alternate names: protein YEL042w
N;Alternate names: protein YEL042w
C;Specials: Saccharomyces cerevisiae
C;Date: 21-Sep-1993 #sequence revision 18-Nov-1994 #text_change 09-Jul-2004
C;Accession: A40732; B40732; $30837; $50502
B;Abeijon, C; Yanagiaewa, K; Mandon, B.C.; Hausler, A.; Moremen, K.; Hirschberg, C.B.; J.Cell Biol. 122, 307-323, 1993
A;Title: Guanosine diphosphatase is required for protein and sphingolipid glycosylation
A;Reference number: A40732; MUID:99308137; PMID:8391537
                                            19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   212
                                                                                                                                                                                                                                              74 IYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSNYPF- 132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TQVTFVPQNQTIESP----DNALQFRLYGKDYNVYTHSFLCYGKDQALWQ--KLAKDIQV 243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   213 TOLTYWPNNBAVFSEHVGYERDIDF--FGHHIRLFTHSFLGNGLIAARLNILQLETDNEI 270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPPQQFEIQGIGNYQQCHQSILEL 303
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           368 EIACRREKTEIDDG----SHWMPWQCLDLTYIYSLLRDGYQF--EDNQPLVLAKKIKGM 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              271 ESTHQLITSCMPEGYQ------LITEWEYALKFWNINGSSSHSFESCYGTTKNF 317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                304 FNTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNL-----ISEKVSQEKVTEMM 357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      318 VESSEI-------MHLRELKGS-PVYLFSYFFDRALNSGLVKGNEGGKIELRQFKEAA 367
                                                                                                                                                  20 YGIVLDAGSSHTSLYIYKW---PAEKENDTGVVHQVEE---CRVKGPGISKFVQKVNEIG 73
                                                                                                                                                                                                                                                                                              100 DSLEPLLQRARKEVPHFMWEKTPITLKATAGLRLL---PGDMADDILESVEERIFNSGFF
                                                                                                                                                                                                                                                                                                                                                                                                                                     -DFQGA-RITTGQEEGAYGWITINYLLGK-FSQKTRWFSIVPYETNNQETFGALDLGGAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               358 KKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGS
                                            Gaps
                                            65;
                                        Indels
   27.0%; Pred. No. 1.2e-18;
ive 71; Mismatches 191;
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A; Residues: 1-518 <ABE>
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                                                                                                                                                                                                                                                                                                                                                                                                                     180 FGALDLGGASTQVTFVPQ---NQTIESPDNALQFRLYGKDYNVYTHSFLCYG-----K 229
                                                                                                                                                                                                                                                                                                                                                                                                                                                     241 AAVFDLGGGSTQIVFEPTFPINEKAVDGEHKFDLKFGDENYTLYQFSHLGYGLKEGRNKV 300
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     334 FYFVMKFLNLTSEKVSQEKVTEMMKKFC--AQPWEEIKTSYAGVKEKYLSE--YCFSGTY 389
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                                                                                                                                                                                                              68 KVNEIGI -- YLTDCMERAREVIPRSQHQETPVYLGATAGMRLL-RMESEELADRVLDVVE
                                                                                                        8 STQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQ
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     Length 518;
                                                     Indels
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Description			mus	mus	Q86vv3 homo sapien	ratt	Q9myu4 sus scrofa	pog	Q8ceb1 mus musculu	Q6dfs1 xenopus tro	Q6gp74 xenopus lae	Q6dc46 brachydanio		gallus	•	brachyc	035795 rattus norv	O55026 mus musculu	Q921r1 mus musculu		-		Q6gna4 xenopus lae	Q6nvi9 xenopus tro	rattı	homo	homo	homo	m m	brack	Q8n6k2 homo sapien
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& Query Match		76.9	76.9	76.7	76.2	75.2	71.9	70.9	0.99	60.8	59.5	54.9	.43.9	42.1	41.8	41.0	40.7	40.4	40.4	40.3	40.0		39.5	39.1	38.3	38.2	38.1	38.0	37.8	35.8	34.6
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658	620.5	596.5	505	504	491	491	485	483	482.5	471.5	469.5	466	465.5	

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MEDLINE=99332082; PubMed=10405171; DOI=10.1016/S0014-5793(99)00751-6; Matsumoco M., Sakurai Y., Kokubo T., Yagi H., Makita K., Matsui T., Titani K., Pujimura Y., Narita N.; "The cDNA cloning of human placental ecto-ATP diphosphohydrolases I arha cDNA cloning of human placental ecto-ATP
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A. (ISOFORM VASCULAR).
MEDILINE=55015846; PubMed=7930580;
Maliszewski C.R., Delespesse G.J.T., Schoenborn M.A., Armitage R.J.,
Fanslow W.C., Nakajima T., Baker E., Sutherland G.R., Poindexter K.,
Birks C., Alpert A., Friend D., Gimpel S.D., Gayle R.B. III;
"The CD39 lymphoid cell activation antigen. Molecular cloning and
structural characterization.";
J. Immunol. 153:3574-3583(1994).
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TISSUE=Placenta;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE OF 240-242; 162-166; 185-189; 210-223; 243-249 AND 288-297
                                                                                                                                                                                                                                                               cell
                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TISSUB-Umbilical vein;
MEDLINE-97149443; PubMed-8996251;
Robson S.C., Kaczmarek E., Siegel J.B., Candinas D., Koziak K., Millan M., Hancock W.W., Bach F.H.;
"Loss of ATP diphosphohydrolase activity with endothelial cell activation.";
                                                          949961, G900Q09; G923Q9;
01-0CT-1996 (Rel. 34, Created)
01-0CT-1996 (Rel. 34, Last sequence update)
01-0CT-2004 (Rel. 34, Last sequence update)
Ectonucleoside triphosphate diphosphohydrolase 1 (EC 3.6.1.5)
(NTPDase1) (Ecto-ATP diphosphohydrolase) (ATPDase) (Lymphoid eactivation antigen) (Ecto-apyrase) (CD39 antigen).
Homo sapiens (Human).
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                                   PRT;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ivation.";
Exp. Med. 185:153-163(1997).
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                                   STANDARD;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TISSUE=Placenta;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NCBI_TaxID=9606;
                                       ENP1 HUMAN
ENP1_HUMAN
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Name=Placental I;
IsoId=P49961-2; Sequence=VSP_003607;
IsoId=P49961-3; Sequence=VSP_003607, VSP_003608, VSP_003609;
IsoId=P49961-3; Sequence=VSP_003607, VSP_003608, VSP_003609;
TISSUE SPECIFICITY: Expressed primarily on activated lymphoid
cells. Also expressed in endothelial tissues. The vascular isoform and the placental isoform II are present in both placenta and umbilical vein, whereas placental isoform I is present in placenta
                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE-20102721; PubMed-10636909; DOI=10.1074/jbc.275.3.2057; Koziak K., Kaczmarek E., Kittel A., Sevigny J., Blusztajn J.K., Schulte Am Esch J. II, Imai M., Guckelberger O., Goepfert C., Qawi I.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Could also
     Makita K., Shimoyama T., Sakurai Y., Yagi H., Matsumoto M., Narita N Sakamoto Y., Saito S., Ikeda Y., Suzuki M., Titani K., Fujimura Y.; "Placental ecto-ATP diphosphohydrolase: its structural feature distinct from CD39, localization and inhibition on shear-induced Int. J. Hematol. 68:297-310(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Jaiol. Chem. 275:2057-2062(2000).

-I. FUNCTION: In the nervous system, could hydrolyze ATP and other nucleorides to regulate purinergic neurotransmission. Could als be implicated in the prevention of platelet aggregation.

Hydrolyzes ATP and ADP equally well.

-I. CATALTITC ACTIVITY: ATP + 2 H(2)0 = AMP + 2 phosphate.

-I. CATALTITE Requires calcium and magnesium.

-I. SUBGNIT: Homodiner; disulfide-linked (By similarity).

-I. SUBGLULAR LOCATION:

-I. ALTERNATIVE PRODUCTS:

EVent.Alternative splicing; Named isoforms=3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Palmitoylation targets CD39/endothelial ATP diphosphohydrolase to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PIM: The N-terminus is blocked.

MISCELLANBOUS: Optimal pH is 7.0-7.5 with ATP as substrate 7.5-8.0 with ADP.
SIMILARITY: BADP.
SIMILARITY: BADP.
DATABASE: NAME=PROW; NOTE=CD guide CD39 entry;
WWW="http://www.ncbi.nlm.nih.gov/prow/cd/cd39.htm".
                                                                                                                                                       MEDLINE=97115858; PubMed=8955160; DOI=10.1074/jbc.271.51.33116; Kaczmarek E., Koziak K., Sevigny J., Siegel J.B., Anrather J., Beaudoin A.R., Bach F.H., Robson S.C.; "Identification and characterization of CD39/vascular ATP
                                                                                                                                                                                                                                                                                          CHARACTERIZATION.
MEDLINE=96215267; PubMed=8626624; DOI=10.1074/jbc.271.17.10391;
Wang T.F., Guidotti G.;
"CD39 is an ecto-(Ca2+,Mg2+)-apyrase.";
J. Biol. Chem. 271:9898-9901(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IsoId=P49961-1; Sequence=Displayed;
                                                                                                                                                                                                                                    diphosphohydrolase.";
J. Biol. Chem. 271:33116-33122(1996)
MEDLINE=99062444; PubMed=9846014;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Name=Vascular;
                                                                                                                                                                                                                                                                                                                                                                                                       PALMITOYLATION.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Robson S.C.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    caveolae."
                                                                                                                                              FUNCTION
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308
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Cycoplasmic (Potential).
N-linked (GlCNAc. .) (Potential).
N-linked (GlCNAc. .) (Potential).
N-linked (GlCNAc. .) (Potential).
N-linked (GlCNAc. .) (Potential).
N-linked (GlCNAc. .) (Potential).
N-linked (GlCNAc. .) (Potential).
N-linked (GlCNAc. .) (Potential).
Ininked (GlCNAc. .) (Potential).
MEDT -> MKGTKDDISQQ (in isoform Placental).
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Placental
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                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
GO; GO:0005887; C:integral to plasma membrane; TAS.
GO; GO:0007596; P:blood coagulation; TAS.
InterPro; IPR00407; DAAL CD39_NTPASE.
Pfam; PF01150; GDA1_CD39; I.
PROSITE; PS01238; GDA1_CD39; T.
Alternative splicing; Antigen; Calcium; Direct protein sequencing; Glycoprotein; Hydrolase; Lipoprotein; Magnesium; Palmitate;
Transmembrane.
                                                                                                                                                                                                                                                                                                                                                                                                                                 ;
0
                                                                                                                                                                                                                                                                                                    | FTId=VSP 003608. |
| FTId=VSP 003608. |
| Missing (In isoform Placental II). |
| FTId=VSP 003609. |
| SS -> G (In Ref. 5). |
| D -> K (in Ref. 4). |
| D -> K (in Ref. 4). |
| D -> Y (in Ref. 5). |
| S7964 MW; BADB7D2499649159 CRC64;
                                                                                                                                                                                                                                                                   PFTSAPPAPTSCCFLFQIQ (in isoform 11).
                                                                                                                                                                                                                                                                                                                                                                                                         Length 510;
                                                                                                                                                                                                                                                                                                                                                                                                         98.4%; Score 2348; DB 1; Length 5
100.0%; Pred. No. 9.2e-176;
ive 0; Mismatches 0; Indels
                                                                                                                           Extracellular (Potential)
                                                                                                    Cytoplasmic (Potential).
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Best Local Similarity 100.
Matches 439; Conservative
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RESULT 2 ENP1_MOUSE

This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/ or send an email to license@isb-sib.ch).

AJ133133; CAB41886.1; -. AJ133134; CAB41887.1; -.

EMBL;

PIR; I56242; I56242. Genew; HGNC:3363; ENTPD1. MIM; 601752; -.

EMBL; S73813; AAB32152.1; -. EMBL; U87967; AAB47572.1; -.

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                                                                                                                                                                                                                                                                 "Gene structure and chromosome location of mouse Cd39 coding for an
                                                                           Mus musculus (Mouse).
Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Butheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus
                                                                                                                      MEDIJINE=95015846; PubMed=7930580; MEDIJINE=95015846; PubMed=7930580; MEDIJINE=95015846; PubMed=7930580; MEDIJINE=95015846; PubMed=7930580; Mediszewski C.R., Delespesse G.J.T., Schoenborn M.A., Armitage R.J. Panslow W.C., Nakajima T., Baker B., Sutherland G.R., Poindexter K Birks C., Alpert A., Friend D., Gimpel S.D., Gayle R.B. III; The CD39 lymphoid cell activation antigen. Molecular cloning and structural characterization. "J. Immunol. 153:3574-3583(1994).
                                                    cell
                         01-NOV-1997 (Rel. 35, Last sequence update)
05-JUL-2004 (Rel. 44, Last annotation update)
Ectonucleoside triphosphate diphosphohydrolase 1 (EC 3.6.1.5)
(NTFDBasel) (Ecto-ATP diphosphohydrolase) (ATPDase) (Lymphoid activation antigen) (Ecto-apyrase) (CD39 antigen).
Name=Entpd1; Synonyms=Cd39;
                                                                                                                                                                                                                       MEDLINE=98399911; PubMed=9730622;
Schoenborn M.A., Jenkins N.A., Copeland N.G., Gilbert D.J.,
Gayle R.B. III, Maliszewski C.R.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Potential.
Cytoplasmic (Potential)
510 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; AF037366; AAB92259.1; -. EMBL; AF041818; AAC83203.1; -.
                01-NOV-1997 (Rel. 35, Created)
STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                478
499
510
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                                                                                                      NCBI TaxID=10090;
                                                                                                                                                                                                                 STRAIN=129/SvJ
                                                                                                                                                                                                                                                             ecto-apyrase."
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STRAIN=C57BL/6J; TISSUE=Testis;
MEDLINE=99279253; PubMed=10349636; DOI=10.1016/S0076-6879(99)03004-9;
                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
N-linked (GlcNAc. . ) (Potential).
N-linked (GlcNAc. . ) (Potential).
N-linked (GlcNAc. . ) (Potential).
N-linked (GlcNAc. . ) (Potential).
N-linked (GlcNAc. . ) (Potential).
N-linked (GlcNAc. . ) (Potential).
W. 9E6A6113D2E13930 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Functional annotation of a full-length mouse cDNA collection.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-MAR-2003 (TrEMBLrel. 23, Created)
01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
Mus musculus adult male testis cDNA, RIKEN full-length enriched
11brary, clone:492131C05 product:ectonucleoside triphosphate
diphosphohydrolase 1, full insert sequence.
                                                                                                                                                                                                                    4;
                                                                                                                                                                          Length 510;
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MEDLINE=21085660; PubMed=11217851; DOI=10.1038/35055500;
RIKEN FANTOM Consortium;
                                                                                                                                                                       76.9%; Score 1835; DB 1; 76.4%; Pred. No. 1.8e-135;
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                                                                                                                                                                                                                    45; Mismatches
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                                                                                                                               57205 MW;
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  73
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291
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510 AA;
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PRELIMINARY;
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A dachi J. Aizawa K. Akimura T., Arakawa T., Bono H., Carninci P., Audachi J., Aizawa K., Akimura T., Hara A., Hashizume W., Futuda S., Futuno M., Hanagaki T., Hara A., Hashizume W., A Hayashida K., Hayatsu W., Hirancko K., Hiracka T., Hirozane T., Kawai J., Kojima Y., Kono M., Kagawa I., Kawikawa T., Kawai J., Kojima Y., Kono H., Kono H., Kouda M., Koya S., Kurihara C., Macsuyama T., Myazaki A., Murata M., Nakamura M., Nishi K., Nomura K., Numazaki R., Ohno M., Ohsato N., Okazaki Y., A Saito R., Saito H., Sakai C., Saito H., Sakai C., Saito H., Shinagawa A., Shiraki T., Sogabe Y., Tagami M., Tagawa A., Takahashi F., Takaku-Akahira S., Takeda Y., Tanaka T., Toya T., Yasuni B., Muramatsu M., Hayashizaki Y., Sumitted (JUL-2001) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TONKPLPENVKYGIVLDAGSSHTNLYIYKWPAEKENDTGVVQQLEECQVKGPGISKYAQK 126
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GO; 00:0005605; C:basal lamina; IDA.
GO; GO:0016021; C:integral to membrane; TAS.
GO; GO:0004050; P:apyrase activity; IDA.
GO; GO:0004180; P:ATP catabolism; IDA.
GO; GO:0007186; P:G-protein coupled receptor protein signalin. . .; IDA.
GO; GO:000186; P:platelet activation; IDA.
GO; GO:0009181; P:pulatelet activation; IDA.
GO; GO:0009181; P:pulatelet activation; IDA.
GO; GO:0009181; P:pulatelet activation; IDA.
GO; GO:0009181; P:pulatelet activation; IDA.
GO; GO:0009181; P:pulatelet activation; IDA.
GO; GO:0009181; P:pulatelet activation; IDA.
GO; GO:0009181; P:pulatelet activation; IDA.
                                                                                                                                                                                                                                                                                                                                                                                                                                            STRAIN=CS7BL/6J; TISSUE=restis;
STRAIN=CS7BL/6J; TISSUE=restis;
STRAIN=CS7BL/6J; TISSUE=restis;
STRAIN=CS7BL/6J; TISSUE=restis;
Shibata K., Itch M., Aizawa K., Nagaoka S., Sasaki N., Carminci P., A. Shibata K., Itch M., Aliawa K., Nagaoka S., Sasaki N., Carminci P., A. Sumi N., Ishii Y., Nakamura S., Hazama M., Nishine T., Harada A., Sumi N., Ishii Y., Nakamura S., Ikegami T., Kashiwagi K., A. Yamamoto R., Matsumoto H., Sakaguchi S., Ikegami T., Kashiwagi K., Pujiwake S., Inoue K., Togawa Y., Tawa M., Ohara E., Watshiki M., A. Okazaki Y., Muramatau M., Inoue Y., Kira A., Hayashizaki Y., Riken integkated sequence analysis (RISA) system-384-format sequencing pipeline with 34 multicapillary sequencer.",
                                  SECUENCE FROM N.A.
STRAIN=C57BL/6J; TISSUE=Testis;
The FANTOM Consortium,
the RIKEN Genome Exploration Research Group Phase I & II Team;
the RIKEN Genome Exploration Research Group Phase I & II Team;
analysis of the mouse transcriptome based on functional annotation of
60,770 full-length cDNAs.";
Nature 420:563-573 (2002).
                                                                                                                                                                                                                                                       STRAIN=C57BL/6J; TISSUB-Testis;
MEDLINE=20499374; PubMed=11042159; DOI=10.1101/gr.145100;
Carninci P., Shibata Y., Hayatsu N., Sugahara Y., Shibata K., Itoh M.,
Konno H., Okazati Y., Muramatsu M., Hayashizaki Y.;
"Normalization and subtraction of cap-trapper-selected cDNAs to
prepare full-length cDNA libraries for rapid discovery of new genes.";
Genome Res. 10:1617-1630(2000).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PROSITE; PS01238; GDA1_CD39_NTPASE; 1.
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Nature 409:685-690(2001)
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Matches 337; Conserv
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SEQUENCECH II, TISSUE=Mammary tumor;

STRAIN-CZECH II, TISSUE=Mammary tumor;

STRAIN-CZECH II, TISSUE=Mammary tumor;

STRAIN-CZECH II, TISSUE=Mammary tumor;

STRAIN-CZECH II, TENDMG=12447932;

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188
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                                                                                                                                                                                                                                                                                                                                                                                        306 LKDPCFNPGYEKVNNVSELYGTPCTKRFEKKLPFDQFRIQGTGDYEQCHQSILELFNNSH 365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CPYSOCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEK--VSQEKVTEMMKKFCAQPWE 366
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   129 NYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYBTNNQETFGALDLGGA
                                                                                                                                                                     STQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEI
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
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Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002)
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STRAIN=CZECH II; TISSUE=Mammary tumor;
Strausberg R.,
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                                       IDA.
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Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
Hopkins R.P., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
Stapleron M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.B.,
Brownstein M.J., Uddin T.B., Toshiyuki S., Carninci P., Mullahy S.J.,
Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
Richards S., Worley K.C., Hale S., Gartia A.M., Gay L.J., Hulyk S.W.,
Villalon D.K., Muzny D.M., Sodergren B.J., Lu X., Gibbs R.A.,
Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
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GO; GO:0006400; P:ATP catabolism; IDA.
GO; GO:0007186; P:G-protein coupled receptor protein signalin. ..;
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GO; GO:0009181; P:purine ribonucleoside diphosphate catabolism; IDA.
PROSITE; PS01150; GDA1_CD39; 1.
PROSITE; PS01238; GDA1_CD39_NTPASE; 1.
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Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
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                                                                                                                                                                                                                                                     76.7%; Score 1830; DB 2; Length 5 76.2%; Pred. No. 4.4e-135; tive 45; Mismatches 56; Indels
                                                                                                                                                               5A1 CD39 NTPASE; 1.
57176 MW; E77BB644AE1413A0 CRC64;
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Matches 336; Conservative
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Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G., Blakesley R.W., Touchman J.W., Green B.D., Dickson M.C., Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S., Krzywinski M.I., Skalska U., Smailus D.E., Schnerch A., Schein J.B., Jones S.J., Marra M.A.; Generation and initial analysis of more than 15,000 full-length human and mouse cDNA sequences."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61 VPYETNNQETPGALDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DQALWQKLAKDIQVASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQG
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
NCBI_TaxID=10116;
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16-OCT-2001 (Rel. 40, Last sequence update)
25-OCT-2004 (Rel. 40, Last amotation update)
Ectonucleoside triphosphate diphosphohydrolase 1 (EC 3.6.1.5)
(NTPDasel) (Ecto-ATP diphosphohydrolase) (ATPDase)
activation antigen) (Ecto-apyrase) (CD39 antigen).
Name=Entpd1; Synoyms=Cd39;
Rattus norvegicus (Rat).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 2; Length 372;
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"Characterization of brain ecto-apyrase: evidence for only apyrase (ED39) gene."; ses. 47:295-302(1997).
Brain Res. Mol. Brain Res.
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Submitted (MAR-2003) to the EMBL/GenBank/DDBJ databases.
EMBL; EC047664; AAH47664.1; -.
GO, GO:0016787; F:hydrolase activity; IEA.
InterPro; IPR000407; GDAl_CD39_NTPase.
Pfam; PF01150; GDAl_CD39_11.
PROSITE; PG01238; GDAl_CD39_NTPABE; 1.
SEQUENCE 372 AA; 42731 MW; ABBIDE1366356EE3 CRC64;
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STRAIN-Sprague-Dawley; TISSUE-Brain, and Hippocampus;
PubMed-9221928;
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                                                                                                                                                                                                                                                                                   Gaps
             STRAIN=Wistar; TISSUE-Cochlea;
MEDLINE-20050856; PubMed-10581401; DOI-10.1016/S0169-328X(99)00244-2;
                                                                                                                                                            STRAIN=Sprague-Dawley; TISSUE=Brain; MEDLINE=Sprague-Dawley; TISSUE=Brain; MEDLINE=98031057; PubMed=93-6474; DOI=10.1016/S0028-3908(97)00115-9; Kegel B., Braun N., Heine P., Maliszewski C.R., Zimmermann H.; An ecto-ATPase and an ecto-ATP diphosphohydrolase are expressed in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Interro, Lencondo Control CD39; 1.
PROSITE; P801238; GDA1_CD39 NTPASE; 1.
PROSITE; P801238; GDA1_CD39 NTPASE; 1.
Antigen; Calcium; Glycoprotein; Hydrolase; Magnesium; Transmembrane.
Cytoplasmic (Potential).
                                                                                                                                                                                                                                                        Neuropharmacology 36:1189-1200(1997).
                                          Vlajkovic S.M., Housley G.D., Greenwood D., Thorne P.R.; Vlajkovic S.M., Housley G.D., Greenwood D., Thorne P.R.; Evidence for alternative splicing of ecto-ArPase associated with termination of purinergic transmission."; Brain Res. Mol. Brain Res. 73:85-92(1999).
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EMBL; Y15685; CAA75730.1; -.
RGD; 69265; Entpdl.
InterPro; IPR000407; GDA1_CD39_NTPase.
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Matches 328;
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J. Biol. Chem. 271:33116-33122(1996).
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STOVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNBI
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TISSUB=Aortic endothelium;
MEDLINE=20155090; PubMed=10866813;
Lemmens R., Vanduffel L., Kittel A., Beaudoin A.R., Benrezzak O.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              16-0CT-2001 (Rel. 40, Created)
16-0CT-2001 (Rel. 40, Last sequence update)
05-UUL-2004 (Rel. 44, Last annocation update)
05-UUL-2004 (Rel. 44, Last annocation update)
Ectonucleoside triphosphate diphosphohydrolase 1 (EC 3.6.1.5)
(NTPDasel) (Ecto-ATP diphosphohydrolase) (ATPDase)
(NTPDasel) (Ecto-ATP diphosphohydrolase) (ATPDase)
(NTPDasel) (ECTO-ATP diphosphohydrolase) (ATPDase)
Name-ENTPD1; Synonyms-CD39;
Sus scrofa (Pig)
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Mammalia, Butheria, Cetartiodactyla, Suina, Suidae,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 510 AA.
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oved. Usage by and for commercial (See http://www.isb-sib.ch/announce/
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       218 STQITEVPQNQVLESPENTLHFRLYGKNYSVYTHSFLCYGKDQALLQKLTKDLK-NTNGT
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InterPro; IPR000407; GDA1_CD39_NTPase.
Pfan; PF01150; GDA1_CD39; J.
PROSITE; PS01238; GDA1_CD39_NTPASE; 1.
Antigen; Calcium; Direct protein sequencing; Glycoprotein; Hydrolase; Magnesium; Transmembrane.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9 TÓNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQK
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                                                                                                                                                                                      diphosphohydrolase 1.
Ectonucleoside triphosphate
diphosphohydrolase 1 27 kDa
                                                                                                                                                                                                                                        Ectonucleoside triphosphate diphosphohydrolase 1 54 kDa
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82F86869040D7735 CRC64;
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Potential.
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N-linked (GlCNAc. . .)
N-linked (GlCNAc. . .)
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modified and this statement is not removed.
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                 :ities requires a license agreement (
send an email to license@isb-sib.ch)
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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation-the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@ib.ch).
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InterPro; IPR000407; GDA1_CD39_NTPase.
Pfan; PF01120; GDA1_CD39; 1.
PROSITE; PS01238; GDA1_CD39. NTPASE; 1.
Antigen; Calcium; Direct protein sequencing; Glycoprotein; Hydrolase; Magnesium; Transmembrane.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TONKALPENVKYGI VLDAGSSHTSLY I YKWPAEKENDTGVVHQVEECRVKGPGI SKFVQK
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Could also
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          diphosphohydrolase.";
J. Biol. Chem. 271:33116-33122(1996).
-!- FUNCTION: In the nervous system, could hydrolyze ATP and other
                                                                            cell
                                                                                                                    Name=ENTPD1, Symonyme=CD39,
Bos taurus (Bovine).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Cetartiodactyla, Ruminantia, Pecora, Bovidae,
Bovinae, Bos.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          nucleotides to regulate purinergic neurotransmission. Could be implicated in the prevention of platelet aggregation. Hydrolyzes ATP and ADP equally well.

-!- CATALYTIC ACTIVITY: ATP + 2 H(2)O = AMP + 2 phosphate.
-!- COFACTOR: Requires calcium and magnesium.
-!- SUBUNIT: Homodimer; disulfide-linked (By similarity).
-!- SUBCELLULAR LOCATION: Integral membrane protein (Potential).
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(Potential).
(Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE=97115858; PubMed=8955160; DOI=10.1074/jbc.271.51.33116; Kaczmarek B., Koziak K., Sevigny J., Siegel J.B., Anrather J., Beaudoin A.R., Bach F.H., Robson S.C.; "Identification and characterization of CD39/vascular ATP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (Potential)
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16-OCT-2001 (Rel. 40, Last sequence update)
05-UL-2004 (Rel. 44, Last annotation update)
Ectonucleoside triphosphate diphosphohydrolase 1 (EC 3.6.1.5)
(MTPDasel) (Ecto-ATP diphosphohydrolase) (Lymphoid activation antigen) (C039 antigen) (Ecto-apyrase).
                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE OF 97-103; 123-133; 136-140; 145-168 AND 459-471.
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Extracellular (Potential).

Extracellular (Potential).

Cytoplasmic (Potential).

N-linked (GlCNAC. .) (Potential).

N-linked (GlCNAC. .) (Potential).

N-linked (GlCNAC. .) (Potential).

N-linked (GlCNAC. .) (Potential).

N-linked (GlCNAC. .) (Potential).

N-linked (GlCNAC. .) (Potential).

N-linked (GlCNAC. .) (Potential).

N-linked (GlCNAC. .) (Potential).

K -> N (in Ref. 2).

INV -> CGF (in Ref. 2).

K -> V (in Ref. 2).
                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
TISSUE-Actric endothelium;
Chang A.S., Garcia R.L., Chang S.M., Schilling W.P.;
Submitted (MAY-1997) to the EMBL/Genbank/DDBJ databases.
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Pred. No. 4e-1
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                                                                                                                                  LRDPCFHPGYKKVVNVSDLYKTPCTKRFEMT---LPFQQFEIQGIGNYQQCHQSILELFN 305
                                                                                                                                             TSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEK-VSQEKVTEMMKKFCAQP 364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             the RIKEN Genome Exploration Research Group Phase I & II Team; "Analysis of the mouse transcriptome based on functional annotation of 60,770 full-length cDNAs."; Nature 420:563-573(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Σ.
                                                                                                     WEEIKTSYAGVKEKYLSEYCPSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
STRAIN=CS7BL/6J; TISSUE=Skin;
MEDLINE=99279253; PubMed=10349636; DOI=10.1016/S0076-6879(99)03004-9;
Carninci P., Hayashizaki Y.;
"High-efficiency full-length cDNA cloning.";
Meth. Enzymol. 303:19-44(1999).
          VNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLS
                                                  NYPPDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
STRAIN=CS7BL/60; TISSUE=Skin;
STRAIN=20499374; Pubmed=11042159; DOI=10.1101/gr.145100;
Carninci P., Shibata Y., Hayatsu N., Sugahara Y., Shibata K., Itoh I
Konno H., Okazaki Y., Muramatsu M., Hayashizaki Y.;
                                                                                                                                                                                                                                                                                                                                                                                                                                 Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Butheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RIKEN FANTOM Consortium; "Functional annotation of a full-length mouse cDNA collection.";
                                                                                                                                                                                                                                                                                                                                                          01-MAR-2003 (TrENBLrel. 23, Last sequence update)
01-OCT-2003 (TrENBLrel. 25, Last annotation update)
Mus musculus 10 days neonate skin cDNA, RIKEN full-length enri
library, clone:4732419M16 product:ectonucleoside triphosphate
diphosphohydrolase 1, full insert sequence. (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE=21085660; PubMed=11217851; DOI=10.1038/35055500;
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STRAIN=C57BL/6J; TISSUE=Skin;
The FANTOM CONSOrtium,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
STRAIN=C57BL/6J; TISSUE=Skin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Nature 409:685-690(2001)
                                                                                                                                                                                                                                                                                                                                 PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                          Mus musculus (Mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=10090;
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TRAINCE FROW N.A.

TO SEQUENCE FROW N.A.

Adachi J., Aizawa K., Akimura T., Arakawa T., Bono H., Carninci P., Adachi J., Aizawa K., Akimura T., Hara A., Hashizume W., Auruno M., Hanagaki T., Hara A., Hashizume W., Buruno M., Hanagaki T., Hiraoka T., Hirozane T., Hori F., Imotani K., Ishii Y., Itch M., Kagawa I., Kasukawa T., Kasukawa T., Kojima Y., Kondo S., Konno H., Kouda M., Koya S., Karihara C., Mateuyama T., Miyazaki A., Murata M., Nakamura M., Nakamura M., Nakaitoh H., Sakai C., Sakai K., Sakazume N., Okazaki Y., Sasitoh H., Sakai C., Sakai K., Sakazume N., Okazaki Y., Sasaki D., Shibata K., Shinagawa A., Shiraki T., Sogabe Y., Tagami M., Tagawa A., Takahashi F., Takaku-Akahira S., Takeda Y., Tanaka T., Submitted (UUL-2001) to the EMBL/Genbank/DBJ databases.

EMBL, AKO28625, EAC2607.1; -. Takaku-Akahira S., Takeda Y., Tanaka T., Submitted (UUL-2001) to the EMBL/Genbank/DBJ databases.

EMBL, AKO28625, EALPDI.

GO; GO:0006505; Cibasal lamina; IDA.

GO; GO:0004050; F:APP catabolism; IDA.

GO; GO:0004050; F:APP catabolism; IDA.

GO; GO:000186; P:Platelet activation; IDA.

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prepare full-length cDNA libraries for rapper-selected cDNAs to prepare full-length cDNA libraries for rapid discovery of new genes."; Genome Res. 10:1617-1630(2000).
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TISSUE-Spleen;

WEDLINE-22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;

A Straubberg R.L.; Feingold B.A.; Grouse L.H.; Derge J.G.;

A Rauberg R.L.; Feingold B.A.; Grouse L.H.; Derge J.G.;

A Altschul S.F.; Zeeberg B., Buetow K.H.; Schaefer C.F.; Bhat N.K.;

A Altschul S.F.; Jordan H.; Moore T., Max S.I.; Wang J.; Hatch F.;

A Hopkins R.F.; Jordan H.; Moore T.; Max S.I.; Wang J.; Hatch F.;

A Hopkins R.F.; Jordan H.; Moore T.; Max S.I.; Wang J.; Hatch F.;

A Brownstein M.J.; Usdin T.B.; Toshiyuki S.; Carninci P.; Prange C.;

A Raha S.S.; Loquellano N.A.; Peters G.J.; Abrameon R.D.; Mullahy S.J.;

B Bosak S.A.; McEwan P.J.; McKernan K.J.; Malek J.A.; Gunaratne P.H.;

Richards S.; Worley K.C.; Hale S.; Garcia A.M.; Gay L.J.; Hulyk S.W.;

A Nilalon D.K.; Muzny D.M.; Sodergren E.J.; Lu X.; Gibbs R.A.;

Rahesley J.; Helton E.; Ketteman M.; Madan A.; Rouffard G.G.;

Blakesley R.W.; Touchman J.W.; Green E.D.; Dickson M.C.;

Blakesley R.W.; Touchman J.W.; Green E.D.; Dickson M.C.;

Blakesley M.I.; Skalska U.; Smailus D.E.; Schnerch A.; Schein J.E.;

C. Mones S.J.; Marra M.A.;

T "Generation and initial analysis of more than 15,000 full-length human
                                              TQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNBIL
                                                                                                         250 RDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTSYC
                                                                                                                                  310 PYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEEIK
                                                                                                                                                                                                            370 TSYAGVKEKYLSEYCFSGTYILSLILQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLNL
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Sukaryota, Metazoa, Chordata, Cranlata, Vertebrata, Euteleostomi,
Amphibia, Batrachia, Anura, Mesobatrachia, Pipoldea, Pipidae;
Xenopodinae, Xenopus.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WEDLINE=22341132; PubMed=12454917; DOI=10.1002/dvdy.10174;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Last sequence update)
Last annotation update)
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SEQUENCE FROM N.A.
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X PubMed=12477932; DDI=10.1073/pnas.242603899;

R Strausberg R.L., Fearingold E.A., Grouse L.H., Derge J.G.,

A Strausberg R.L., Fearingold E.A., Grouse L.H., Schuler G.D.,

A Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,

Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

A Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

A Hopkins R.F., Logelland R., Farmer A.A., Rubin G.M., Hong L.,

A Hopkins R.F., Logelland R., Farmer A.A., Rubin G.M., Hong L.,

Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,

Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

Raha S.S., Logelland N.A., Peters G.J., Abramson R.D., Mullahy S.J.,

Bosak S.A., McEwan P.J., McKernan R.J., Malek J.A., Gunaratne P. H.,

Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

Villalon D.K., Madan A., Sodergren E.J., Lu X., Gibbs R.A.,

Nilting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,

Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,

Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,

Krzywinski M.I., Skalska U., Smailus D.E., Schnerch A., Schein J.E.,

Jones S.J., Marra M.A.;

Jones S.J., Marra M.A.;

"Teeneration and initial analysis of more than 15,000 full-length human
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                                                                                                                                                                                                                                                                                                                                                 Xenopus tropicalis (Western clawed frog) (Silurana tropicalis).
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
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Klein S., Gerhard D.S.;
Submitted (JUL-2004) to the EMBL/GenBank/DDBJ databases.

EMBL; BC076662; AAH76662.1; -.

GO; GO:0016787; F:hydrolase activity; IEA.

InterPro; IRR000407; GDA1_CD39_NTPase.

FRan; PPO1150; GDA1_CD39_1.

PROSITE; PS01238; GDA1_CD39_LD39_LD39; T.

PROSITE; PS01238; GDA1_CD39_NTPASE; 1.

SEQUENCE 508 AA; 57322 MW; 12CAEAC05BEABDEB CRC64;
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                                                                                                                                                                                                                                                25-OCT-2004 (TrEMBLrel. 28, Created)
25-OCT-2004 (TrEMBLrel. 28, Last sequence update)
25-OCT-2004 (TrEMBLrel. 28, Last annotation update)
Entpdl-prov protein.
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                                                                                                                                                                                                            508 AA
                                                                 GWTLGYMLNLTNMIPAEQPLSTPLSHST 447
                                                                                                       359 GWTLGYMLNLTNMIPAEQPLSPPLPHST 386
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                                                                                                                                                                                                          PRELIMINARY;
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NCBI_TaxID=8364;
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Best Local S
Matches 263
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Best Local Similarity 56.9
Matches 252; Conservative
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                                                                                                                                                                                                                                                                                                                                                 70 NEIGIYLIDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSN 129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEIL 249
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PubMed=12477932; DOI=10.1073/pnas.242603899;
PubMed=12477932; DOI=10.1073/pnas.242603899;
PubMed=12477932; DOI=10.1073/pnas.242603899;
PubMed=12477932; DOI=10.1073/pnas.242603899;
Altschul S.F., Fenber B., Wagner L., Shemmen C.M., Schuler G.D., Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K., Diatchenko L., Marusina R., Farmer A.A., Rubin G.M., Hong L., Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E., Brownstein M.J., Usdin T.B., Toshiyuki S., Carainici P., Prange C., Brownstein M.J., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H., Richards S., Morley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
                                                                                                                                                                                                                                                                                      39 ONKPLPKNIKYGIVLDAGSSHTSVYIYEWPSEKENDTGVVQQINDCKVEGNGISSYGHEP
                                                                                                                                                                                                                                                                                                                                                                          YPPDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGAS
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Name=zgc:100819,
Name=zgc:100819,
Brachydanio rerio (Zebrafish) (Danio rerio).
Bukaryota; Metazoa; Chordata; Craniata; Verrebrata; Buteleostomi;
Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
Cyprinidae; Danio.
NCBI_TaxID=7955;
                                                                                                                                                                                                                        Gaps
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                                                                                                                                                                           Length 508;
                                                                                                                                                                        59.5%; Score 1418; DB 2; Length 5
59.1%; Pred. No. 1e-102;
ive 72; Mismatches 105; Indels
to the EMBL/GenBank/DDBJ databases
                                                                                                                                  CRC64;
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BD205818A06C523B
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                      EMBL, BC073267, AAH73267.1; --
GO, GO:0016787, F:hydrolase activity; IEA.
InterPro, IPR000047; GDA1_CD39_NTPase.
Pfan, PF01150; GDA1_CD39_NTPASE; 1.
PROSITE; PS01238; GDA1_CD39_NTPASE; 1.
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25-OCT-2004 (TrEMBLrel. 28,
25-OCT-2004 (TrEMBLrel. 28,
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                                                                                                                                      508 AA;
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Villalon D.K., Muzny D.M., Sodergren B.J., Lu X., Gibbs R.A., Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A., Miniting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G., Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C., Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S., Krzywinski M.I., Skalska U., Smailus D.E., Schnerch A., Schein J.E., Gonesation and initial analysis of more than 15,000 full-length human and mouse cDNA sequences."
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Mammalia; Butheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
NCBI_TaxID=10090;
[1]
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05-JUL-2004 (TrEMBLrel. 27, Last annotation update)
Nucleoside triphosphate diphosphohydrolase-8 (EC 3.6.1.5)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      104; Indels
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Submitted (JUL-2004) to the EMBL/GenBank/DDBJ databases
EMBL; BC078240; AHT78240.1;
                                                                                                                                                                                                                                                                                                                                                                                                 GO; GO:0016787; F:hydrolase activity; IEA.
InterPro; IPR000407; GDA_CD39_NTFASE.
Pfam: PF01150; GDA_CD39; 1.
PROSITE; PS01238; GDA_CD39 NTPASE; 1.
SEQUENCE 492 AA; 55507 NW; B789AB6DFC6A032B CRC64;
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                                                                                                                                                                                                                            Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   54.9%; Score 1308.5; DB ; 56.9%; Pred. No. 3.8e-94; tive 64; Mismatches 104;
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STRAIN=Singapore local strain; TISSUE=Embryo;
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diphosphohydrolase."

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EIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSNY 130
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CAOPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAG 420
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    11 NKÁLPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQKVN
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Archosauria, Aves, Neognathae, Galliformes, Phasianidae, Phasianinae,
SEQUENCE FROM N.A.
STRAIN=C57BL/6; TISSUE=Liver;
Bigonnesse P., Levesque S.A., Kukulski F., Lecka J., Robson S.C.,
Fernandes M:J.G., Sevigny J.;
Submitted (AUG-2003) to the EMBL/GenBank/DDBJ databases.
EMBL; AY364442; AAQ84519.1; -...
EMBL; AY364442; P.apyrase activity; IEA.
GO; GO:0016787; F.hydrolase activity; IEA.
InterPro; IPR000407; GDA1_CD39_NTPase.
Pfam; PF01180; GDA1_CD39_NTPASE.
PROSITE; PSG1238; GDA1_CD39_NTPASE; 1.
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16-OCT-2001 (Rel. 40, Last sequence update)
16-OCT-2001 (Rel. 44, Last annotation update)
BCtonucleoside triphosphate diphosphohydrolase 1 (BC 3.6.1.5)
(NTPDasel) (Bcto-ATP diphosphohydrolase) (ATPDase) (Lymphoid cell activation antigen) (Ecto-apyrase) (CD39 antigen).
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MEDLINE=98298108, PubMed=9632655; DOI=10.1074/jbc.273.26.16043;
Nagy A.K., Knowles A.F., Nagami G.T.;
"Molecular cloning of the chicken oviduct ecto-ATP-
                                                                                                                                                                                                                                                                                                                                                                                                                              43.9%; Score 1046; DB 2; Length 497; 47.9%; Pred. No. 1.6e-73; Live 75; Mismatches 131; Indels 2:
                                                                                                                                                                                                                                                                                                                                                                      497 AA; 54650 MW; 00DE822B6EEB1BDF CRC64;
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SEQUENCE
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Pfam; PP01150; GDA1_CD39; 1.
PROSITE; PS01238; GDA1_CD39_NTPASE; 1.
Antigen; Calcium; Direct profesin sequencing; Glycoprotein; Hydrolase;
                                                                                                                                                                                                                                                                             gizzard and stomach. Purification and N-terminal sequence of the stomach ecto-apyrase.";

J. Biol. Chem. 272:23645-2365(1997).

J. Biol. Chem. 272:23645-2365(1997).

L. FUNCTION: In the nervous system, could hydrolyze ATP and other nucleotides to regulate purinergic neurotransmission. Could also be implicated in the prevention of platelet aggregation. Hydrolyzes ATP and ADP equally wall (By similarity).

L. CATALYTIC ACTIVITY: ATTP + 2 H(2)O = AMP + 2 phosphate.

C. CATALYTIC ACTIVITY: ATTP + 2 H(2)O = AMP + 2 phosphate.

C. SUBLOIT: Homodimer; disulfide-linked (Probable).

C. SUBCELLULAR LOCATION: Integral membrane protein (Potential).

C. I = FTM: N-glycosylated.
                                                                                                                                          TISSUE=Stomach;
MEDLINE=97442428; PubMed=9295305; DOI=10.1074/jbc.272.38.23645;
Lewis-Carl S., Kirley T.L.;
"Immunolocalization of the ecto-ATPase and ecto-apyrase in chicken in Immunolocalization of the management of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the stop of the 
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I -> G (in Ref. 1; AA sequence)
F14FF4C3AA2F3603 CRC64;
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Extracellular (Potential).
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                              Biol. Chem. 273:16043-16049(1998).
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21 I
54034 MW;
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308 YCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEE

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74 IYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSNYPFD 133
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                                                                                                                                                                                                248 ILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTS 307
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                                                                                                                     308 YCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEE 367
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QVTFVPQNQTIESPDNALOFRLYGKDYNVYTHSFLCYGKDQA---LWQKLAKDIQVASNE
              210 QITFQP-GVTIEDKNISVLFRLYGTNYSLYTHSYLCYGGIQASKRLMAALHQDGSYVQN-
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01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-DEC-2003 (TrEMBLrel. 24, Last annotation update)
01-UNN-2003 (TrEMBLrel. 24, Last annotation update)
ECto-ATP-diphosphohydrolase (EC 3.6.1.5).
Gallus gallus (Chicken).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
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Rowles A.F., Nagy A.K., Strobel R.S., Wu-Weis M.;
Purification, characterization, cloning, and expression of the chicken liver ecto-ATP-diphosphohydrolase.";

Bur. J. Biochem. 269:2373-2382 (2002).

EMBL, AR426405; AAL25086.1; ---
GO; GO:0004050; Fiapyrase activity; IEA.

GO; GO:0004057; Fiapyrase activity; IEA.

PF01150; GDA1_CD39; 1.
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41.8%; Score 997; DB 2; Length 49
Best Local Similarity 45.7%; Pred. No. 1.1e-69;
Matches 196; Conservative 72; Mismatches 145; Indels
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TISSUE-Liver;
MEDLINE-21982040; PubMed=11985621;
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368 IKTSYAGVĶĒKYĻSEYÇFSGTYIĻSLĻĻQGYHFTADSWEHIHFIGKIQGSDAGWTLGYML
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New soluble CD39 polypeptides having apyrase activity, useful for inhibiting angiogenesis and treating unstable angina, myocardial
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Aay70900 E
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(c) 1993 - 2005 Compugen Ltd.
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AAY70889
ABM83377
ABO84671
ADI62735
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ADS17924
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ALIGNMENTS

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Soluble CD39; solCD39; human; apyrase activity; platelet activation; unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; preeclampsia; embolism; platelet-associated ischaemic disorder; thrombotic disorder; reocclusion; coaqulopathy; deep venous thrombosis; plumonary embolism; pE; thrombos formation; occlusion; restenosis; ampliance formation; activoseletive; antitooaqulant; cardiant; vasotropic; thrombolytic; inhibitor; interleukin 2; IL2.
                                                               Human soluble CD39 and IL2 N-terminus comprising fusion construct.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          16. .454
/note= "Human soluble CD39 protein"

    .15
    /label= Mature human_interleukin_2
    /note= "N-terminal region"

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98US-0107466P.
99US-0149010P.
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unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; preeclampsia; embolism; platelet-associated ischaemic disorder; lung ischaemia; thrombolytic; cerebral ischaemia; thrombotic disorder; lung ischaemia; thrombolytic; ererbral artery thrombosis; diracardiac thrombosis; venous thrombosis; peripheral artery thrombosis; coaqulopethy; deep venous thrombosis; psr plumonary embolism; transient ischaemic attack; thrombus formation; occlusion; recoclusion; stenosis; restenosis; antianginal; cardiant; cerebroprotective; antiarteriosclerotic; vasotropic; anticoagulant;

coronary ischaemia, vascular occlusion.

sapiens.

Synthetic

Protein

/note= "Human soluble CD39 protein"

16. .454

Protein

WO200023094-A2

27-APR-2000

13-OCT-1999; 16-OCT-1998; 06-NOV-1998; 13-AUG-1999;

1. .15 /label= Mature human interleukin_2 /note= "N-terminal region"

location/Qualifiers

```
The present sequence is a fusion construct, comprising the N-terminal anino acids of mature human interleukin2 (IL2) and soluble CD39 (solCD39) region, that has apyrase activity. This results in high levels of solCD39 captression and activity in the transfected cells. Soluble CD39 is constructed by removing the N- and C-terminal transmembrane domains. It constructed by removing the N- and C-terminal transmembrane domains. It constructed by removing the N- and C-terminal transmembrane domains. It constructed by the N- and creates and concentrations and transment, including platelet adgregation. Soluble CD39 polypeptides are useful for inhibiting angiogenesis. It is useful for the treatment of unstable angina, myocardial infarction, stroke, coronary artery disease cor injury, atherosclerosis, peripheral ascular occlusion, preeclampsia, embolism, platelet-associated ischemic disorders including lung, coronary and cerebral ischemia, thrombosis, intracardiac and venous thrombosis, coagulopathy, deep venous thrombosis (DYT), pulmonary chorons preventing thrombus formation or reformation, occlusion, reocclusion, rectivation, reformation, occlusion, reocclusion, rectivation, reformation, reformation, rectivation,
disease or injury
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               stenosis or restenosis of blood vessels or stroke
                                                          Claim 6a; Page 95-97; 122pp; English.
   infarction, stroke, coronary artery
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                                                                                                      DVVERSLSNYPPDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETF 180
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                                                          LELFNTSYCPYSOCAFNOIFLPPLOGDFGAFSAFYFVMKFLNLTSEKVSOEKVTEMMKKF
                                                                                                                                                                            GALDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKD
                                                                                                                                                                                         IQVASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSI
                                                                                                                                                                                                                                                                                      <u>LELFNTSYCPYSQCAFNGIFLPPLQGDPGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKF</u>
                                          1 KKTOLTSSTONKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGP
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Length 454;
                       Indels
100.0%; Score 2385; DB 3;
100.0%; Pred. No. 2.5e-236;
cive 0; Mismatches 0;
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                        447; Conservative
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Best Local Similarity
Matches 447; Conserv
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Inhibiting platelet activation and recruitment, useful for treating a mammal suffering from unstable angina, myocardial infarction, stroke, coronary artery disease or injury, comprises administering soluble CD39 polypeptides.

Claim 6; Page 95-97; 118pp; English.

Marcus AJ;

Gayle RB,

Maliszewski CR,

WPI; 2000-339518/29.

N-PSDB; AAD00201

(IMMV) IMMUNEX CORP. (CORR) CORNELL RES FOUND INC.

98US-0104585P. 98US-0107466P. 99US-0149010P. 99WO-US023641.

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The present sequence is the protein enocoded by a fusion construct of sol(soluble)CD39 having apyrase activity. Fusion of 12 amino acids from sol(soluble)CD39 having apyrase activity. Fusion of 12 amino acids from the N-terminus of mature human IL2 to the solch39 coding region results in high levels of both expression and activity in the supernatants of transfected cells. This is used in the treatment of unstable angina, transfected cells. This is used in the treatment of unstable angina, and cransfected cells. This is used in the treatment of unstable angina, coronary considerated inchemial infarction, stroke, coronary collusion, preeclampsia, embolism, platelet-associated ischaemia, thrombosis, intracardiac thrombosis, inchaemia and cerebral artery thrombosis, intracardiac thrombosis, peripheral artery thrombosis, venous thrombosis, intracardiac thrombosis, peripheral artery thrombosis (PUT), pullmonary embolism (PE), coagulopathy, deep venous thrombosis (PUT), pullmonary embolism (PE), transient ischaemic attack. Soluble CD39 is also useful for preventing thrombus formation or reformation, occlusion, reocclusion, stenosis or restenosis of blood vessels or stroke
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100.0%; Pred. No. 2.5e-236;
ive 0; Mismatches 0;
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17-AUG-2000 AAY70890;

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RESULT 2 AAY70890 9 67

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Length 454; Indels

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17-AUG-2000 (first entry)
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Matches 447; Conservative
   WPI; 2000-339644/29.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Soluble CD39; solCD39; human, apyrase activity; platelet activation; unstable angina; myocardial infarction; stroke; coronary artery disease; atheroselerquis; peripheral vascular occlusion; preclampsia; embolism; platelet-associated ischaemic disorder; thrombotic disorder; reocclusion; coagulopathy; deep venous thrombosis; DVT; pulmonary embolism; PE; thrombus formation; occlusion; stenosis; restenosis; angiogenesis;
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307
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                                                                                                                                                                                                                                                                                   DVVERSLSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETF
                                                         DVVERSLSNYPPDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETP
                                                                                                                                 GALDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKD
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           antianginal, cerebroprotective, antiarteriosclerotic, anticoagulant, cardiant, vasotropic, thrombolytic, inhibitor, interleukin 2, IL2.

    .24
    /label= Leader_peptide
    /note= "Derived from human interleukin 2 (hIL2)"

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Cleavage site of leader sequence"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human soluble CD39 fusion protein construct, pIL2LTrim4.
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/note= "Human soluble CD39 protein"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                               428 WILGYMINLTNMIPAEOPLSTPLSHST 454
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
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The present sequence is the fusion protein construct, pIL2LTrim4. This construct comprises of the leader peptide from human interleukin 2 (hIL2) and soluble CD39 (solCD39) protein region, having apyrase activity.

Could cD39 is constructed by removing the N- and C-terminal constructed by removing the N- and C-terminal constructed by removing the N- and creatablie ATP and ADP ctransmembrane domains. It retains the capacity to metabolise ATP and ADP ctransmembrane domains. It retains the ability to block and reverse ADP-construction and recruitment, including platelet aggregation. Soluble CD39 polypeptides are useful for inhibiting aggregation. Soluble CD39 polypeptides are useful for inhibiting theory capacital infarction, coronary artery disease or injury, embolism, atherosclerosis, peripheral vascular occlusion, precelampsia, platelet-capsociated ischaemic disorders including lung, coronary and carebral ischaemia, thrombosic disorders including coronary, peripheral and cerebral artery thrombosis, intracardiac and venous thrombosis, consulpathy, deep venous thrombosis (DVT), pulmonary embolism (PE) and transient ischaemic attack. Soluble CD39 is also useful for preventing thrombosis formation, or reformation, occlusion, stenosis or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61 GISKFVOKVNEIGIYLTDCMERAREVIPRSOHOETPVYLGATAGMRLLRMESEELADRVL 120
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New soluble CD39 polypeptides having apyrase activity, useful for inhibiting angiogenesis and treating unstable angina, myocardial infarction, stroke, coronary artery disease or injury.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 473;
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100.0%; Pred. No. 2.7e-236;
tive 0; Mismatches 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            restenosis of blood vessels or stroke
                                                                                                                                                            Claim 6; Page 114-116; 122pp; English
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The present sequence is the protein encoded by Trim4 construct. pIL2Trim4 variant was construct. Fusion of 12 amino acids from the N-terminus of mature human IL2 residues from solCD39 fusion construct. Fusion of 12 amino acids from the N-terminus of mature human IL2 to the solCD39 coding region results in high levels of mature expression and activity in the supernatants of transfected cells. SolCD39 stored, coronary artery disease or injury, atherosclerosis, peripheral vascular occlusion, preeclampsia, embolism, platelet-associated ischaemic disorder including lung ischaemia, coronary ischaemia and cerebral ischaemia, a thrombosis, intracardiac thrombosis, peripheral artery thrombosis, intracardiac thrombosis, peripheral artery thrombosis, thrombosis, coagulopathy, deep venous thrombosis, thrombosis, coagulopathy, deep venous soluble CD39 is also useful for preventing thrombus formation of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of the coast of
                                                             soluble CD39; ADP-induced platelet activation; platelet aggregation; unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; preeclampsia; embolism; platelet-associated ischaemic disorder; lung ischaemia; thrombolism; cerebral ischaemia; thrombosis; intracardiac thrombosis; coronary artery thrombosis; peripheral artery thrombosis; intracardiac thrombosis; venous thrombosis; peripheral artery thrombosis; coagulopathy; deep venous thrombosis; peripheral artery thrombosis; restenosis; attack; thrombus formation; occlusion; recoclusion; stenosis; restenosis; antianginal; cardiant; cerebroprotective; antiarteriosclerotic; vasotropic; anticoagulant; coronary ischaemia; vascular occlusion; pll2Trim4 variant.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Inhibiting platelet activation and recruitment, useful for treating a mammal suffering from unstable angina, myocardial infarction, stroke, coronary artery disease or injury, comprises administering soluble CD39
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                        Protein encoded by Trim 4 construct.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (CORR ) CORNELL RES FOUND INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        98US-0107466P.
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06-NOV-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Synthetic
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soluble CD39; solCD39; human; apyrase activity; platelet activation; unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; preeclampsia; embolism; platelet-associated ischaemic disorder; thrombotic disorder; recoclusion; cognulopathy; deep venous thrombosis; pulmonary embolism; PE; thrombot formation; occlusion; stenosis; restenosis; angiogenesis; antianginal; cerebroprotective; antiarteriosclerotic; anticoagulant; cardiant; vasotropic; thrombolytic; inhibitor; interleukin 2; IL2.
                                                                                                                                                                                                                                                          361 CAQPWBEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAG 420
                                                                                                                                                                                                                                                                        97 GISKFVQKVNEIGIYLIDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVL 146
                                                                                                                                                                                                         LELFNTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKF
GISKFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVL
                                                                                                   181 GALDLGGASTQVTFVVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKD
                                                                                                                       207 GALDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKD
                                                                                                                                                      241 IQVASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIGGIGNYQQCHQSI
                                                                                                                                                                       267 IQVASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLFFQQFEIQGEGNYQQCHQSI
                                                                                                                                                                                                                        DVVERSLSNYPPDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETF

    .24
/label= Leader_peptide
/note= "Derived from human interleukin 2 (hIL2)"

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te= "Cleavage site of leader sequence"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human soluble CD39 fusion protein construct, pIL2LTrim3.
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                                                                                                                                                                                                                                                                                                                  WTLGYMLNLTNMIPAEQPLSTPLSHST 447
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                                                                                                                                                                                                                                                                                                                                                                                                           AAY70923 standard; protein; 474 AA.
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06-NOV-1998;
13-AUG-1999;
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tch al Similarity 100.0%; Score 2385; DB 3; Length 473; al Similarity 100.0%; Pred. No. 2.7e-236; 447; Conservative 0; Mismatches 0; Indels 0.

Sequence 473 AA;

Query Match Best Local &

Best Loca Matches

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27 KKTQLTSSTQNKALPENVKYGIVLDAGSSHTSLYIXKWPAEKENDTGVYHQVEECRVKGP KKTQLTSSTQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGP

(first entry)

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Soluble CD39; ADP-induced platelet activation; platelet aggregation; unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; preeclampsia; embolism; platelat-associated ischaemia occlusion; preeclampsia; embolism; cerebral ischaemia; thrombotic disorder; lung ischaemia; thrombosis; cerebral artery thrombosis; intracardiac thrombosis; thrombosis; peripheral artery thrombosis; coaquiopathy; deep venous thrombosis; peripheral artery thrombosis; coaquiopathy; deep venous thrombosis; PB; pulmonary embolism; transient ischaemic attack; thrombus formation; ecclusion; reocclusion; etenosis; restenosis; antianginal; cardiant; cerebroprotective; antiarteriosclerotic; vasotropic; anticoagulant; coronary ischaemia; vascular occlusion; pIL2Trim3 variant.
                                                   Protein encoded by Trim 3 construct.
                                                                                                                                                                                                                                                                                                                                                                                                                             WO200023094-A2
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Cleavage-site
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                   17-AUG-2000
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                                                                                                                                                                                                                                                                                                         Synthetic.
                                                                                                                                                                                                                                                                                                                                                                            Protein
                                                                                                                                                                                                                                                                                           Homo
   The present sequence is the fusion protein construct, pIL2ITrim3. This construct comprises of the leader peptide from human interleukin 2 (hIL2) and soluble CD39 (solCD39) protein region, having apyrase activity.

Soluble CD39 is constructed by removing the N- and C-terminal transmembrane domains It retains the capacity to metabolise ATP and ADP transmembrane domains It retains the capacity to metabolise ATP and ADP induced platelet activation and recruitment, including platelet aggregation. Soluble CD39 polypeptides are useful for inhibiting angereast it is useful for the treatment of unstable angula, stroke, myocardial infarction, coronary attery disease or injury, embolism, atherosclerdsis, peripheral vascular occlusion, preclampsia, platelet associated isorders including lung, coronary and cerebral associated isorders including lung, coronary and cerebral associated isorders including coronary, peripheral and cerebral artery thrombotic disorders including coronary, peripheral and cerebral artery thrombotic disorders including coronary embolism (PB) and translent isohaemic attack. Soluble CD39 is also useful for preventing thrombus formation or reformation, occlusion, reocclusion, stenosis or restenosis of blood vessels or stroke
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GISKFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVL 147
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 KKTQLTSSTQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGP
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                                                                 New soluble CD39 polypeptides having apyrase activity, useful for inhibiting angiogenesis and treating unstable angina, myocardial infarction, stroke, coronary artery disease or injury.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100.0%; Score 2385; DB 3; Length 474; 100.0%; Pred. No. 2.7e-236; ive 0; Mismatches 0; Indels 0;
 Price VL, Gimpel SD;
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Maliszewski CR, Gayle RB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Best Local Similarity 100.
Matches 447; Conservative
                                 WPI; 2000-339644/29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 474 AA;
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/note= "Soluble portion of CD39"

99WO-US023641.

98US-0107466P. 98US-0104585P

Location/Qualifiers

24. .25 36. .474

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The present sequence is the protein encoded by Trim3 construct. pIL2Trim3 variant was constructed by removing the human IL2 residues from solD39 (Tusion construct. Fusion of 12 amino acids from the N-terminus of mature human IL2 to the solCD39 coding region results in high levels of both expression and activity in the supernatants of transfected cells. SolCD39 corporated in the treatment of unstable angina, myocardial infarction, stroke, coronary artery disease or injury, atherosolerosis, peripheral vascular occlusion, preeclampsia, embolism, platelet-associated ischaemic disorder including lung ischaemia, coronary ischaemia and cerebral ischaemia, a thrombosis, intracardiac thrombosis, peripheral artery thrombosis, intracardiac thrombosis, peripheral artery trombosis, intracardiac thrombosis, peripheral artery thrombosis (thrombosis, coagulopathy, deep venous thrombosis, thrombosis, coagulopathy, deep venous thrombosis, benous formation or seformation, occlusion, reocclusion, stenosis or restenosis of blood
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                                                                                                                                      Gayle RB, Marcus AJ;
(IMMV ) IMMUNEX CORP. (CORR ) CORNELL RES FOUND INC.
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                                                                                                                                      Maliszewski CR,
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AAY70900 standard; protein; 474 AA

AAY70900;

AAY70900 ID AAY7 XX AC AAY7

SD;

Gimpel

Price VL,

Gayle RB,

98US-0107466P. 99US-0149010P.

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(IMMV) IMMUNEX CORP.
                                                              WPI; 2000-339644/29.
N-PSDB; AAD00207.
                                            Maliszewski CR,
06-NOV-1998;
13-AUG-1999;
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                                                                                                                                                                                                                                                                                                                                                                                       soluble CD39; solCD39; human; apyrase activity; platelet activation; unstable angina; myocardial infarction, stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; preeclampsia; embolism; platelet-associated ischaemic disorder; thrombotic disorder; reocclusion; coagulopathy; deep venous thrombosis; DVT; pulmonary embolism; PE; thrombus formation; occlusion; stenosis; restenosis; angiogenesis; antiamqinal; cerebroprotective; antiarteriosclerotic; anticoaqulant; cardiant; vasotropic; thrombolytic; inhibitor; interleukin 2; IL2.
                                                                                                                                        300
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                                                                                                                                                                                                               CAQPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAG 420
                                                                                                                                                                                                                           DVVERSLSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETF 180
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          87
                             GISKFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVL
                                       GALDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKD
                                                                                                                 108 GALDIGGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALMQKLAKD
                                                                                                                                        IQVASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSI
                                                                                                                                                                            LELPNTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKF
                                                                            KKTÓLÍSSTÓNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDÍGVVHQVEECRVKGP
1. .24

/label= Leader peptide

/label= "Derived from human interleukin 2 (hIL2)"

25. .35

/label= Mature human_interleukin_2

/note= "Derived from N-terminal end of human IL2"
                                                                                                                                                                                                                                                                                                                                                                         Human soluble CD39 fusion protein construct, pIL2LsolCD39.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         40. .478
/note= "Human soluble CD39 protein"
                                                                                                                                                                                                                                                       WTLGYMLNLTNMIPAEQPLSTPLSHST 447
                                                                                                                                                                                                                                                                 448 WILGYMINLINMIPAEQPLSTPLSHST 474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                      AAY70914 standard; protein; 478
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens.
Synthetic.
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The present sequence is a fusion construct pIL2LsolCD39, comprising the cader peptide of human interleukin 2 (HIL2), 12 amino acids from the mature N-terminus of hIL2 and soluble CD39 (solCD39) coding region, having apyrase activity. This produces high levels of solCD39 expression and activity in the transfected cells. Soluble CD39 is constructed by removing the N- and C-terminal transmembrane domains. It retains the capacity to metabolise ATP and ADP at relevant concentrations and the ability to block and reverse ADP-induced platelet activation and carcuitment, including platelet aggregation. Soluble CD39 polyPeptides crecuitment, including platelet aggregation. Soluble CD39 polyPeptides cornitable angina, myocardial infarction, stroke, coronary artery disease or injury, atherosclerosis, peripheral vascular occlusion, precelampsia, coronary and cerebral ischaemia, thrombotic disorders including lung, coronary and cerebral artery thrombosis, intracardiac and venous thrombosis, coagulopathy, deep venous thrombosis (born preventing thrombus formation or reformation, occlusion, reocclusion, for preventing thrombus formation or reformation, celusion, reocclusion, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporation, corporatio
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New soluble CD39 polypeptides having apyrase activity, useful for inhibiting angiogenesis and treating unstable angina, myocardial infarction, stroke, coronary artery disease or injury.
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100.0%; Pred. No. 2.8e-236;
ive 0; Mismatches 0;
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                                                                                                                                                           Disclosure; Page 99-101; 122pp; English
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Best Local Similarity
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                                                                                                                                                                            unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; preeclampsia; embolism; platelet-associated ischaemic disorder; lung ischaemia; thrombolytic; cerebral ischaemia; thrombotic disorder; coronary artery thrombosis; cerebral artery thrombosis; intracardiac thrombosis; venous thrombosis; peripheral artery thrombosis; coagulopathy; deep venous thrombosis; PB; pulmonary embolism; transient ischaemic attack; thrombos formation; occlusion; steenosis; restenosis; antianginal; cardiant; cerebroprotective; antiarteriosclerotic; vasotropic; anticoagulant;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Inhibiting platelet activation and recruitment, useful for treating a mammal suffering from unstable angina, myocardial infarction, stroke, coronary artery disease or injury, comprises administering soluble CD39 polypeptides.
                                                                                                                                                              CD39; ADP-induced platelet activation; platelet aggregation;
                                                                                                                                                                                                                                                                                                                                                                                                         'note= "huIL2 leader sequence"
                                                                                                                                                                                                                                                                                                                                                                                                                                      "Mature human IL2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            40. .478
/note= "SolCD39 protein"
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                                                                                                                                                                                                                                                                                                            coronary ischaemia, vascular occlusion.
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                                                   AAY70891 standard; protein; 478 AA
                                                                                                                                   Protein encoded by pIL2Lsol CD39.
                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Linker"
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98US-0107466P.
99US-0149010P.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              99WO-US023641
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                                                                                                         (first entry)
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/note= "L
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(CORR) CORNELL
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06-NOV-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GALDLGGASTQVTFVPQQQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              272 IQVASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPPQQFEIQGIGNYQQCHQSI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LELFNTSYCPYSQCAFNGIFLPPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CAQPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAG
                                                                                                                                                                                                                                                                    32 KKTQLTSSTQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGP
                                                                                                                                                                                                                                                                                                                            GISKFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVL
                                                                                                                                                                                                                                                                                                                                                                  GISKFVOKVNEIGIYLTDCMERAREVIPRSOHOETPVYLGATAGMRLLRMESEELADRVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LELFNTSYCPYSOCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               361 CAQPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAG
                                                                                                                                                                                                                                       1 KKTQLTSSTQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGP
                                                                                                                                                                                                                                                                                                                                                                                                                 DVVERSLSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETF
                                                                                                                                                                                                                                                                                                                                                                                                                                                    152 DVVERSLSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GALDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      IQVASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSI
                                                                                                                                                                                               Gaps
thrombosis, thrombosis, coagulopathy, deep venous thrombosis (DVT), pulmonary embolism (PE), transient ischaemic attack. Soluble CD39 is useful for preventing thrombus formation or reformation, occlusion, reocclusion, stenosis or restenosis of blood vessels or stroke

    .24
/label= Leader_peptide
/note= "Derived from human interleukin 2 (hIL2)"

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                                                                                                                                                     Length 478;
                                                                                                                                                                                             Indels
                                                                                                                                                   100.0%; Score 2385; DB 3;
100.0%; Pred. No. 2.8e-236;
iive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       478
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAY70921 standard; protein; 487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (first entry)
                                                                                                                                                                       al Similarity 100.
447; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   25. .36
/note= "N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  .40
                                                                                                          Sequence 478 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       sapiens
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Region
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soluble CD39; ADP-induced platelet activation; platelet aggregation; unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; precelampsia; embolism; platelet-associated ischaemic disorder; lung ischaemia; thrombolism; platelet-associated ischaemic disorder; lung ischaemia; thrombolis; cerebral artery thrombosis; coronary artery thrombosis; peripheral artery thrombosis; coaquiopathy; deep venous thrombosis; ps. pulmonary embolism; transient ischaemic attack; thrombosis; DVT; ps. pulmonary embolism; transient ischaemic attack; thrombosis; DVT; cerebroprotective; antiarteriosclerotic; vasotropic; antianginal; cardiant; cerebroprotective; antiarteriosclerotic; vasotropic; anticoagulant; coronary ischaemia; vascular occlusion; solCD39 expression plasmid.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Inhibiting platelet activation and recruitment, useful for treating a mammal suffering from unstable angina, myocardial infarction, stroke,
                                                                                                                               KVTEMMKKFCAQPWEELKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFI
                                                                                                                                                                                                                                               392 KVTEMMKKFCAQPWEEIKTSYAGVKEKYLSEZYCFSGTYILSLLLQGYHFTADSWEHIFF
                                                                                             NYQQCHQSILELFNTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .36 e= "First 12 amino acids of mature human IL2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Protein encoded by soluble CD39 expression plasmid.
                                                                                                                                                                                                                                                                                                                                      412 GKIQGSDAGWTLGYMLNLTNMIPAEQPLSTPLSHST 447
                                                                                                                                                                                                                                                                                                                                                                        "hull2 leader sequence"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gayle RB, Marcus AJ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       49. .487
/note= "Soluble CD39"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAY70898 standard; protein; 487 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  41. .48
/note= "Flag tag"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    37. .40
/label= linker
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (IMMV ) IMMUNEX CORP. (CORR ) CORNELL RES FOUND INC.
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98US-0107466P.
99US-0149010P.
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N-PSDB; AAD00204.
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06-NOV-1998;
13-AUG-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAY70898;
                                                                                                                                                                                                                               352
                                                 272
                                                                                                            292
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Peptide
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEBLADRVLDVVERSLSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVP 171
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                51
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New soluble CD39 polypeptides having apyrase activity, useful for inhibiting angiogenesis and treating unstable angina, myocardial infarction, stroke, coronary artery disease or injury.
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Best Local Similarity 98.0%; Pred. No. 8.9e-235;
Matches 447; Conservative 0; Mismatches 0; Indels 9;
                                                                                                                                                 /note= "Human soluble CD39 protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Price VL, Gimpel SD;
                                                                 41. .48
/note= "FLAG Tag sequence"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Disclosure; Page 109-111; 122pp; English.
                                     "Linker sequence"
                                                                                                                                                                                                                                                                                                                                                                                       98US-0104585P.
98US-0107466P.
99US-0149010P.
                                                                                                                                                                                                                                                                                                                               99WO-US022955
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                                                                                                                         .487
                                        /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (IMMV ) IMMUNEX CORP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2000-339644/29.
N-PSDB; AAD00209.
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                                                                                                                                                                                                             WO200023459-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                  13-AUG-1999;
                                                                                                                                                                                                                                                                                                                                   13-OCT-1999;
                                                                                                                                                                                                                                                                                                                                                                                              16-OCT-1998;
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                                                                                                                            Protein
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The present sequence is encoded by soluble CD39(solCD39) expression plasmid. This was used for the transient expression of solCD39 protein in mammalian expression systems. SolCD39 is used in the treatment of unstable angina, myocardial infarction, stroke, coronary artery disease or injury, atherosclerosis, peripheral vascular occlusion, preeclampsia, embolism, platelet-associated ischaemic disorder including lung ischaemia and cerebral ischaemia, thrombocic disorder including coronary artery thrombosis, cerebral artery thrombocic disorder including coronary artery thrombosis, peripheral artery thrombosis, thrombosis, thrombosis, thrombosis, cagulopathy, deep venous thrombosis (DVT), pulmonary embolism (PB), transient ischaemic attack. Soluble CD39 is also useful for preventing thrombos formation or reformation, occlusion, reocclusion,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                52 VERCRVKGPGISKFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRME 111
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NYQQCHQSILELFNTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQE 391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KVTEMMKKFCAQPWEBIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFI 411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Soluble CD39; human; apyrase activity; platelet activation; inhibitor; unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; preclampsis; embolism; platelet-associated ischaemic disorder; thrombotic disorder; reocclusion; coagulopathy; deep venous thrombosis; DVT; pulmonary embolism; PE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEELADRVLDVVERSLSNYPPDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVP 171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           91
coronary artery disease or injury, comprises administering soluble CD39 polypeptides.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VEFCRVKGPGISKFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              152 SEELADRVLDVVERSLSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  KKTQLTSS-----TQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                212 YETNNQETFGALDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ALWOKLAKDIQVASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NYQQCHQSILELFNTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQE
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                                                                                                                                                                                                                                                                                                                                                                                                                       99.4%; Score 2370.5; DB 3; Length 487; 98.0%; Pred. No. 8.9e-235; ive 0; Mismatches 0; Indels 9;
                                                                                                                                                                                                                                                                                                                                           stenosis or restenosis of blood vessels or stroke
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GKIOGSDAGWTLGYMLNLTNMIPAEQPLSTPLSHST 447
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                                                               Example 9; Page 109-111; 118pp; English
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nes 447; Conservative
                                                                                                                                                                                                                                                                                                                                                                                  Sequence 487 AA;
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The present sequence is a fusion protein construct CD39-L4-1, comprising the human CD39-L4 N-terminal region and soluble CD39 protein. CD39-L4 is a secreted apyrase, belonging to the CD39 family. Soluble CD39 is constructed by removing the N- and C-terminal transmembrane domains. It retains the capacity to metabolise ATP and ADP at relevant concentrations and the ability to block and reverse ADP-induced platelet activation and recruitment, including platelet aggregation. Soluble CD39 polypeptides recruitment, including platelet aggregation. Soluble CD39 polypeptides or unstable angina, myocardial infarction, stroke, coronary artery disease. Or injury, atherosclerosis, peripheral vascular occlusion, pracelampsia, coronary and cerebral ischaemia, thrombotic disorders including coronary, peripheral and cerebral artery thrombosis, intracardiac and venous thrombosis, coagulopathy, deep venous thrombosis (DVT), pulmonary embolism (PB) and transient ischaemic attack. Soluble CD39 is also useful for preventing thrombus formation or reformation, occlusion, reocclusion, reocclusion, reocclusion,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              7 SSTQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFV
thrombus formation, occlusion, stenosis, restenosis, angiogenesis, antianginal, cerebroprotective, antiarteriosclerotic, anticoagulant, cardiant, vasotropic, thrombolytic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      New soluble CD39 polypeptides having apyrase activity, useful for inhibiting angiogenesis and treating unstable angina, myocardial infarction, stroke, coronary artery disease or injury.
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                                                                                                                                                                            20. .21
/note= "Cleavage site of leader sequence"
                                                                                                                                            1. .37
/note= "Human CD39-L4 protein N-terminal
                                                                                                                                                                                                             38. .476
/note= "Human soluble CD39 protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Price VL,
                                                                                                                        Location/Qualifiers
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                                                                      sapiens
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                                                                                     Synthetic.
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Sequence 476 AA;
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                                               EILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNT 335
                                                                          366
                                                                                    EIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYM 426
                                                                                                                           Soluble CD39; ADP-induced platelet activation; platelet aggregation; unstable angina myocardial infarction; stroke; ocnomary attery disease; atheroscleropis; peripheral infarction; stroke; ocnomary attery disease; platelet-assbciated ischaemic disorder; lung ischaemia; thrombolism; platelet-assbciated ischaemia; thrombotic disorder; ocnomary artery thrombolis; cerebral artery thrombosis; hartacardiac thrombosis; venous thrombosis; peripheral artery thrombosis; nareardiac thrombosis; bE; pulmonary embolism; transient ischaemic atteck; thrombus formation; occlusion; reocclusion; stenonis; restenosis; antiandinal; cardiant; cerebroprotective; antiarteriosclerotic; vasotropic; anticoagulant;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Inhibiting platelet activation and recruitment, useful for treating a mammal suffering from unstable angina, myocardial infarction, stroke, coronary artery disease or injury, comprises administering soluble CD39
           BILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNT
                                                                          SYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20. .21
38. .476
/note= "Soluble portion of CD39"
                                                                                                                                                                                                                                                                                                                                                                                                                                                    1. .37
/note= "Derived from CD39-L4"
                                                                                                                                                                                                                                                                                                                                                                                            coronary ischaemia; vascular occlusion.
                                                                                                                                                                                                                                                                              Protein encoded by CD39-L4-1 construct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Marcus AJ;
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                                                                                                                                                                AAY70888 standard; protein; 476 AA
                                                                                                                                                     LNLTNMIPAEQPLSTPLSHST 447
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(CORR ) CORNELL RES FOUND INC.
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98US-0107466P.
99US-0149010P.
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Synthetic.
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06-NOV-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                                                        7 SSTONKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFV
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Claim 6; Page 89-91; 118pp; English.
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19 TGAPTSTQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGI

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The present sequence is the fusion protein construct, IgkappaLsolCD39.

This construct comprises of the leader peptide from human immunoglobulin Ig kappa, linked to the soluble CD39 (solCD39) protein region by few residues derived from human interleukin 2 (hIL2). SolCD39 has apyrase activity and is constructed by removing the N- and C-terminal transmembrane domains. It retains the capacity to metabolise ATP and ADP induced platelet activation and recruitment, including platelet adgregation. Soluble CD39 polypeptides are useful for inhibiting agregation. Soluble CD39 polypeptides are useful for inhibiting agregation, coronary artery disease or injury, embolism, atherosclerosis, peripheral vascular occlusion, preeclampsia, platelet—sasociated ischaemic disorders including lung, coronary and cerebral ischaemic disorders including coronary, peripheral and cerebral artery thrombotic disorders including coronary, peripheral and cerebral artery thrombotic disorders including coronary, peripheral and cerebral artery thrombotic disorders including coronary, peripheral and cerebral schaemic attack. Soluble CD39 is also useful for preventing thrombus formation or reformation, occlusion, recoclusion, stenosis or restenosis of blood vessels or stroke
unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; preeclampsia; embolism; platelet-associated ischaemic disorder; thrombotic disorder; reocclusion; coagulopathy; deep vanous thrombosis; DVT; pulmonary embolism; PE; thrombus formation; occlusion; stenosis; restenosis; angiogenesis; antianginal, cerebroprotective; antiarteriosclerotic; anticoagulant; cardiant; vasctropic; thrombolytic; inhibitor; interleukin 2; IL2; Ig; immunoglobulin kappa.
                                                                                                                                                                                                                                                                                                                                                    21. .24
/note= "Residues derived from human interleukin 2 (IL2)"
                                                                                                                                                                                                                                                            1. .20
/label= Leader_peptide
/note= "Derived from human immunoglobulin Ig kappa"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New soluble CD39 polypeptides having apyrase activity, useful for inhibiting angiogenesis and treating unstable angina, myocardial infarction, stroke, coronary artery disease or injury.
                                                                                                                                                                                                                                                                                                                                    "Cleavage site of leader sequence
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/note= "Human soluble CD39 protein"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 6; Page 116-118; 122pp; English.
                                                                                                                                                                                                                                    cocation/Qualifiers
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98US-0107466P.
99US-0149010P.
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                                                                                                                                                                                                                                                                                                                  Cleavage-site
                                                                                                                                                                                Homo sapiens
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06-NOV-1998;
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                                                                                                                                                                                                    Synthetic
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                                                                                                                                                                                                                                                         LDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQ 242
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                                    SKFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDV
                                                                                                                              123 VERSLSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGA
                                                                                                                                                                                                                                                                                                    199 LDLGGASTQVTFVPQNQTIBSPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQ
                                                                                                                                                                                                                                                                                                                                                                                                                               259 VASNEILKDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPPQQFEIQGIGNYQQCHQSILE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            379 OPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWT
   SKFVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDV
                                                                                                                                                                                                                                                                                                                                                                                    243 VASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QPWBEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWT

    .20
    /note= "Igkappa leader sequence"

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/note= "Soluble portion of CD39"
25. .32
/note= "Derived from solCD39"
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Gaps

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Indels

3,

1; Mismatches

441; Conservative

Local Similarity

Best Loca Matches

Query Match

Score 2354; DB 3; Length 463; Pred. No. 4.1e-233;

98.7%; 99.1%;

soluble CD39, solCD39, human; apyrase activity; platelet activation; unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; preeclampsia; embolism; platelet-associated ischaemic disorder; thrombotic disorder; reocclusion; coagulopathy; deep venous thrombosis; DVT; pulmonary embolism; PE; thrombus formation; occlusion; stestenosis; angiogenesis; antianginal; cerebroprotective; antiateriosclerotic; anticoagulant; cardiant; vasotropic; thrombolytic; inhibitor; interleukin 2; IL2.

Human soluble CD39 fusion protein construct, pIL2LTriml.

(first entry)

17-AUG-2000

AAY70922;

1. .24 |Jabel= Leader peptide |/note= "Derived from human interleukin 2 (hIL2)"

Location/Qualifiers

Homo sapiens.

Synthetic

Key Peptide

24. .25 /note= "Cleavage site of leader sequence" 26. 464 /note= "Human soluble CD39 protein"

Cleavage-site

Protein

Gimpel SD;

Price VL,

Gayle RB,

Maliszewski CR,

WPI; 2000-339644/29.

(IMMV) IMMUNEX CORP.

98US-0104585P. 98US-0107466P. 99US-0149010P.

06-NOV-1998; 13-AUG-1999;

99WO-US022955

13-OCT-1999; 16-OCT-1998;

27-APR-2000

WO200023459-A1

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AAY70922
ID AAY70922 standard; protein; 464 AA.
              The present sequence is the protein encoded by IgkappalsolCD39 construct.
This is used for transient expression of soluble(sol)CD39 in recombinant
cells for determining enzymatic activity and platelet inhibitory activity
for each protein product. SolCD39 is used in the treatment of unstable
angina, myocardial infarction, stroke, coronary artery disease or injury,
atherosclerosis, peripheral vascular occlusion, preeclampsia, embolism,
platelet-associated ischaemic disorder including lung ischaemia, coronary
cischaemia and cerebral ischaemia, thrombotic disorder including scoronary
artery thrombosis, cerebral artery thrombosis, intracardiac thrombosis,
peripheral artery thrombosis, venous thrombosis, plumonary embolism (PB);
cransient ischaemic attack. Soluble CD39 is also useful for preventing
thrombus formation or reformation, occlusion, reocclusion, stenosis or
crestenosis of blood vessels or stroke
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                                                                                                                                                   Inhibiting platelet activation and recruitment, useful for treating a mammal suffering from unstable angina, myocardial infarction, stroke, coronary artery disease or injury, comprises administering soluble CD39 polypeptides.
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Pred. No. 4.1e-233;
1; Mismatches 3; Indels (
                                                                                                 Marcus AJ;
                                                                                                                                                                                                                        6; Page 116-118; 118pp; English
    98US-0104585P.
98US-0107466P.
99US-0149010P.
                                                          (IMMV ) IMMUNEX CORP.
(CORR ) CORNELL RES FOUND INC.
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                                                                                                   Maliszewski CR,
       16-OCT-1998;
36-NOV-1998;
                                  13-AUG-1999;
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The present sequence is the fusion protein construct, pIL2LTriml. This construct comprises of the leader peptide from human interleukin 2 (hIL2) and soluble CD39 (solutor) system as a civilate CD39; (solutor) system are significated by removing the N- and C-terminal transmembrane domains. It constructed by removing the N- and C-terminal transmembrane domains. It constructed by removing the N- and C-terminal transmembrane domains. It constructed by removing the N- and C-terminal transmembrane domains. It can the ability to block and reverse ADP-induced platelet activation and recrit ment, including platelet aggregation. Soluble CD3 polypeptides recruitment, including platelet aggregation. Soluble CD3 polypeptides recruitment, including platelet aggregation, coronary artery disease or injury, embolism, atherosclerosis, peripheral vascular occlusion, preeclampsia, platelet-associated ischaemic disorders including lung, preeclampsia, platelet-associated ischaemic disorders including coronary, coronary and cerebral artery thrombosis, intracardiac and venous thrombosis, coagulopathy, deep venous thrombosis (DY7), pulmonary embolism (PS) and transient ischaemic attack. Soluble CD39 is also useful for preventing thrombus formation or reformation, occlusion, reocclusion, stenosis or restenosis of blood vessels or stroke
New soluble CD39 polypeptides having apyrase activity, useful for inhibiting angiogenesis and treating unstable angina, myocardial infarction, stroke, coronary artery disease or injury.
                                                                                                                                                                                                                                                                          Claim 6; Page 111-112; 122pp; English
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

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Description	Sequence 6, Appli	Sequence 29, Appl	Sequence 28, Appl	Sequence 8, Appli	Sequence 26, Appl	Sequence 3, Appli	Sequence 30, Appl	Sequence 27, Appl	Sequence 2, Appli	Sequence 38, Appl	Sequence 2, Appli	Sequence 1, Appli	Sequence 1, Appli
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ALIGNMENTS

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Sequence 6, Application US/09835147

Sequence 6, Application US/09835147

Sequence 6, Application US/09835147

SEXEMAL INFORMATION:

APPLICANT: Maliszewski, Charles R.

APPLICANT: Gangel III, Richard B.

APPLICANT: Gangel III, Richard B.

APPLICANT: Gangel III, Richard B.

APPLICANT: Gangel III, Richard B.

APPLICANT: Gangel III, Stocken D.

TITLE OF INVENTION: Inhabitors of Platelet Activation and Recruitment FILE REFERENCE: 2879-US

CURRENT APPLICANTION NUMBER: US 60/104,585

PRIOR FILING DATE: 1998-11-06

PRIOR FILING DATE: 1998-11-06

PRIOR FILING DATE: 1998-11-06

PRIOR PILING DATE: 1999-10-13

PRIOR APPLICATION NUMBER: PCT/US99/22955

PRIOR PILING DATE: 1999-10-13

NUMBER OF SEQ ID NOS: 31

SOFTWARE: Patentin Ver. 2.0

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ORGANISM: Artificial Sequence
US-09-835-147-6
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TYPE: PRT
ORGANISM: Artificial Sequence
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| Sequence 29, Application US/09835147
| Patent No. US2002002277A1
| GENERAL INFORMATION:
| APPLICANT: Maliszewski, Charles R. APPLICANT: Gapple III, Richard B. APPLICANT: Price, Virginia L. APPLICANT: Price, Virginia L. APPLICANT: Gimpel, Steven D. TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE REFERENCE: 2879-US
| CURRENT FILING DATE: 2879-US | CURRENT FILING DATE: 1998-10-16 | PRIOR FILING DATE: 1998-10-16 | PRIOR PRILCATION NUMBER: US 60/104,585 | PRIOR FILING DATE: 1998-11-06 | PRIOR PRILCATION NUMBER: US 60/104,66 | PRIOR PRILCATION NUMBER: US 60/104,585 | PRIOR PRILCATION NUMBER: US 60/104,585 | PRIOR PRILCATION NUMBER: US 60/104,585 | PRIOR PRILCATION NUMBER: US 60/104,585 | PRIOR PRILCATION NUMBER: US 60/104,585 | PRIOR PRILCATION NUMBER: US 60/104,585 | PRIOR PRILCATION NUMBER: US 60/104,585 | PRIOR FILING DATE: 1999-08-13 | PRIOR FILING DATE: 1999-08-13 | PRIOR FILING DATE: 1999-10-13 | NUMBER OF SEQ ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO ID NOS: 31 | SEO I
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 100.0%; Score 2385; DB 9; Best Local Similarity 100.0%; Pred. No. 1.8e-210; Matches 447; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WTLGYMLNLTNMIPAEQPLSTPLSHST 447
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ORGANISM: Artificial Sequence
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US-09-835-147-29
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LENGTH: 473
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                                                                                            IQVASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSI
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                                                                                                                                     301 LELFNTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKF
GISKFVOKVNBIGIYLTDCMERAREVIPRSOHOETPVYLGATAGMRLLRMESEELADRVL
           Gaps
                                        DVVERSLSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      100.0%; Score 2385; DB 9; Length 474; 100.0%; Pred. No. 1.8e-210; ive 0; Mismatches 0; Indels 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             OTHER INFORMATION: Description of Artificial Sequence: OTHER INFORMATION: construct of human CD39
                                                                                                                                                                                                                                                         WTLGYMLNLTNMIPAEQPLSTPLSHST 447
                                                                                                                                                                                                                                                                     447 WTLGYMLNLTNMIPAEQPLSTPLSHST 473
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OY 181 GALDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDXNVYTHSFLCYGKDQALWQKLAKD 240 DD 212 GALDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDXNVYTHSFLCYGKDQALWQKLAKD 271 OY 241 IQVASNBILRDPCKRYKVVNVSDLXKTPCTKRFBWTLPFQQFBIQGIGNYQQCHQSI 300	Db 272 İQVASNEİLRÜPCFHPGYKKVINVSDLYKTPCTKRFEMTLPPQQFEIGGIGNYQQCHGSI 331 Qy 301 LELENTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLMLTSEKVSQEKVTEMMKKF 360 Db 332 LELENTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLMLTSEKVSQEKVTEMMKKF 391	Oy 361 CAQPWEBIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAG 420 1	Qy 421 WTLGYMLALTHWIPAEQPLSTPLSHST 447	RESULT 5 US-09-835-147-26 ; Sequence 26, Application US/09835147	latelet Activation and Recruitment ,585 ,466 ,010 ,22955 artificial Sequence: Fusion man CD39 e 2370.5; DB 9; Length 487; .No. 4.1e-209; ismatches 0; Indels 9; Gaps ENVKKGIVLDAGSSHTSLYIXWPAEKENDTGVVHQ	Qy 112 SEELADRVLDVVERSLSNYPPDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVP 171	212 YETNINGELFGALDLOGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQ
QY 121 DVVERSLSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETF 180 Db 148 DVVERSLSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETF 207 QY 181 GALDLGGASTQVTFVPQNQTIESPDALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKD 240	Db 208 GALDLGGASTQVTFVPQNQTIESPDNALQPRLYGKDYNVYTHSFLCYGKDQALMQKLAKD 267 QY 241 IQVASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSI 300 Db 268 IQVASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSI 327	Qy 301 LEÚPNTSYCPYSQCAFNGIFLPPLQGDFGAFSAPYFVMKFLNLTSEKVSQEKVTEMMKKF 360 	Qy 361 CAQPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHPIGKIQGSDAG 420 Db 388 CAQPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHPIGKIQGSDAG 447	Qy 421 WTRGYMLNLTNMIPAEQPLSTPLSHST 447 	199-835-147-8 Sequence 8, Application US/09835147 Batent No. US2002002277A1 Batent No. US2002002277A1 APPLICANT: Gayle III, Richard B. APPLICANT: Maliszewski, Charles R. APPLICANT: Price, Virginia L. APPLICANT: Price, Virginia L. APPLICANT: Gayle III, Richard B. APPLICANT: Price, Virginia L. APPLICANT: Gayle III, Richard B. APPLICANT: Gayle III, Richard B. APPLICANT: Gimpel, Steven D. TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment CURRENT APPLICATION NUMBER: US 60/104,585 PRIOR FILING DATE: 1999-10-16 PRIOR FILING DATE: 1999-10-16 PRIOR FILING DATE: 1999-10-13 PRIOR PRIOR APPLICATION NUMBER: US 60/107,466 PRIOR FILING DATE: 1999-10-13 PRIOR FILING DATE: 1999-10-13 PRIOR FILING DATE: 1999-10-13 PRIOR FILING DATE: 1999-10-13 PRIOR FILING DATE: 1999-10-13 PRIOR FILING DATE: 1999-10-13 PRIOR FILING DATE: 1999-10-13 PRIOR FILING DATE: 1999-10-13 PRIOR FILING DATE: 1999-10-13 PRIOR FILING DATE: 1999-10-13 PRIOR FILING DATE: 1999-10-13 PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR	Qy 61 GISKPVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVL 120	121 DVEKSLENIFFURGARIIIGGEBGAIGMIINIH

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Sequence 30. Application US/09835147

Sequence 30. Application US/09835147

Sequence 30. Application US/0020002277A1

Septent No. US20020002277A1

APPLICANT: Maliszewski, Charles R.

APPLICANT: Gayle III, Richard B.

APPLICANT: Frice, Virginia L.

TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE REFRENCE: 2879-08.

CURRENT APPLICATION NUMBER: US/09/835,147

CURRENT PAPLICATION NUMBER: US 60/104,585

PRIOR FILING DATE: 1998-110-16

PRIOR FILING DATE: 1998-110-16

PRIOR FILING DATE: 1998-110-16

PRIOR FILING DATE: 1999-08-13

PRIOR FILING DATE: 1999-08-13

PRIOR FILING DATE: 1999-10-13

SOFTWARE: Patentin Ver. 2.0

SOFTWARE: Patentin Ver. 2.0

SOFTWARE: Patentin Ver. 2.0
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                       336 SYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWE
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Pred. No. 1.3e-207;
1; Mismatches 3; Indels (
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COTHER INFORMATION: construct of human CD39
US-09-835-147-30
                                                                                                                                                                                        LNLTNMIPAEOPLSTPLSHST 447
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Best Local Similarity 99.1%;
Matches 441; Conservative 1
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ORGANISM: Artificial Sequence
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APPLICANT: Gayle III, Richard B.
APPLICANT: Gayle III, Richard B.
APPLICANT: Gayle III, Richard B.
APPLICANT: Gayle III, Richard B.
APPLICANT: Price, Virginia L.
APPLICANT: Price, Virginia L.
APPLICANT: Gimpel, Steven D.
ITILE OF INVENTION: Inhibitors of Platelet Activation and Recruitment
FILE REFERENCE: 2879-US
CURRENT APPLICATION NUMBER: US (09/104,585
PRIOR FILING DATE: 1998-10-13
PRIOR FILING DATE: 1998-11-06
PRIOR PILING DATE: 1998-11-06
PRIOR PILING DATE: 1999-08-13
PRIOR FILING DATE: 1999-08-13
PRIOR FILING DATE: 1999-10-13
PRIOR FILING DATE: 1999-10-13
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                              NYQQCHQSILELFNTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQE
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f human CD39
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                                                                                                                                                                                                                                                          GKIQGSDAGWTLGYMLNLTNMIPAEQPLSTPLSHST 447
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Patent No. US20020002277A1
GENERAL INFORMATION:
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US-09-835-147-3
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APPLICANT: Ford, John
APPLICANT: Ford, John
APPLICANT: Mulero, Julio
TITLE OF INVENTION METHODS AND MATERIALS RELATING TO NOVEL CD39-LIKE POLYPEPTIDES
TITLE REFERENCE: 28110/35908
CURRENT APPLICATION NUMBER: US/10/092,063
CURRENT FILING DATE: 2002-03-05
PRIOR APPLICATION NUMBER: 09/370,265
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NYPPDFQCARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGA 188
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                                                                                                                                                                     Sequence 2, Application US/09374586

Batent No. US20020138658A1

GENERAL INFORMATION:
APPLICANT: PINSKy, David J.
TITLE OF INVENTION: CD39/ECTO-ADPASE AS A TREATMENT FOR THROMBOTIC AND TITLE OF INVENTION: US/09/374,586

TITLE REFERENCE: 0575/59167

CURRENT APPLICATION UNMER: US/09/374,586

CURRENT FILING DATE: 1999-08-13

NUMBER OF SEQ ID NOS: 2

SOFTWARE: PATENTIN Ver. 2.1
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Pred. No. 4.2e-207;
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7 100.0%; Pred. No. ...
0; Mismatches
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                                                    464
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US-10-092-063-38
US-10-092-063-38
; Sequence 38, Application US/10092063
; Publication No. US20020173005A1
; GENERAL INFORMATION:
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                               444 LNLTNMIPAEQPLSTPLSHST
  LINLTINMI PAEQPLSTPLSHST
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Matches 439; Conservative
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US-09-374-586-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LENGTH: 439
TYPE: PRT
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US-09-374-586-2
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                                                                                                                                                                                                                                                                                                                                   GABREAL INCORMATION:
APPLICANT: Maliszewski, Charles R.
APPLICANT: Maliszewski, Charles R.
APPLICANT: Gayle III, Richard B.
APPLICANT: Price, Virginia L.
APPLICANT: Price, Virginia L.
APPLICANT: Gimpel, Steven D.
TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE REFERENCE: 2879-US
CURRENT FILING DATE: 2010-04-13
PRIOR PLILING DATE: 1998-10-16
PRIOR PLILING DATE: 1998-10-16
PRIOR PLILING DATE: 1998-11-06
PRIOR PLILING DATE: 1998-11-06
PRIOR PLILING DATE: 1999-08-13
PRIOR PLILING DATE: 1999-08-13
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                               379 QPWEEIKTSYAGVKEKYLSEYCPSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWT
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QPWBEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWT
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99.8%; Pred. No. 1.6e-207;
ive 1; Mismatches 0;
                                                                                                   447
                                                                                                                                                   463
                                                                                                                              439 LGYMLNLTNMIPAEQPLSTPLSHST
                                                                                                 LGYMLNLTNMI PAEOPLSTPLSHST
                                                                                                                                                                                                                                                                      Sequence 27, Application US/09835147
Patent No. US20020002277A1
GENERAL INFORMATION:
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Best Local Similarity 99.8
Matches 440; Conservative
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PRIOR APPLICATION NUMBER: US 60/107,466
PRIOR FILING DATE: 1998-11-06
PRIOR APPLICATION WUMBER: US 60/149,010
PRIOR APPLICATION WUMBER: PCT/US99/22955
PRIOR FILING DATE: 1999-08-13
PRIOR FILING DATE: 1999-10-13
NUMBER OF SEQ ID NOS: 31
SOFTWARE: PALENTIN Ver. 2.0
SEQ ID NO 2
LENGTH: 510
                                                                                                                                                                                                                         ORGANISM: Homo sapiens
US-09-835-147-2
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Matches 439; Conserv
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US-09-374-586-1
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US_09-835-147-2
Sequence 2, Application US/09835147
Patent No. US20020002277A1
GENERAL INFORMATION:
APPLICANT: Maliszewski, Charles R.
APPLICANT: Gayle III, Richard B.
APPLICANT: Gimpel, Steven D.
TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE REFERENCE: 2879-US
CURRENT APPLICATION NUMBER: US/09/835,147
CURRENT FILING DATE: 2001-04-13
PRIOR FILING DATE: 1998-10-16
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      PRIOR FILING DATE: 2002-01-31
PRIOR APPLICATION NUMBER: PCT/US99/16180
PRIOR PILING DATE: 1999-07-16
PRIOR PELLING DATE: 1999-07-16
PRIOR PELLING DATE: 1999-07-09
PRIOR PELLING DATE: 1999-07-09
PRIOR PELLING DATE: 1999-03-19
PRIOR PELLING DATE: 1999-03-19
PRIOR PELLING DATE: 1999-03-19
PRIOR PELLING DATE: 1999-07-04
PRIOR PELLING DATE: 1999-07-04
PRIOR PELLING DATE: 1999-07-16
PRIOR PELLING DATE: 1999-07-16
PRIOR PELLING DATE: 1999-07-16
NUMBER OF SEC ID NOS: 39
SOFTWARE: PALENTIN VOIS: 39
SOFTWARE: PALENTIN VOIS: 39
LENGTH: 502
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Query Match 98.4%; Score 2348; DB 9; Length 510; Best Local Similarity 100.0%; Pred. No. 5.2e-207; Matches 439; Conservative 0; Mismatches 0; Indels
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llarity 100.0%; Pred. No. 5.2e-207;
Conservative 0; Mismatches 0;
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Patent No. US20020138858A1

GENERAL INFORMATION:
TITLE OF INVENTION: USCHEMIC DISORDERS

TITLE OF INVENTION: USCHEMIC DISORDERS

TITLE OF INVENTION: USCHEMIC DISORDERS

FILE REFERENCE: 0575/59167

CURRENT APPLICATION NUMBER: US/09/374,586

CURRENT FILING DATE: 1999-08-13

NUMBER OF SEQ ID NOS: 2

SOFTWARE: Petentin Ver: 2.1

SEQ ID NO 1
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FOR TREATING CARDIOVASCULAR DISEASE
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98 VNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLS
                                                  158 NYPFDFQGARIITGQEEGAYGWITINYLLGKFSQXTRWFSIVPYETNNQETFGALDLGGA
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100.0%; Pred. No. 5.2e-207;
iive 0; Mismatches 0;
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Publication No. US20040136992A1

GERREAL INFORMATION:
APPLICANT: BURTON, Paul B. J.
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR:
FILE REFERENCE: 3432-B

CURRENT APPLICATION NUMBER: US/10/646,308

CURRENT FILING DATE: 2003-08-21

PRIOR PLILING DATE: 2003-08-12

PRIOR FILING DATE: 2003-08-12

PRIOR FILING DATE: 2003-08-12

PRIOR FILING DATE: 2003-08-12

PRIOR FILING DATE: 2003-08-12

PRIOR FILING DATE: 2003-08-12

PRIOR PLING DATE: 2003-08-12

PRIOR PLING DATE: 2003-08-28

NUMBER OF SEQ ID NOS: 36

SEQ ID NO 30

SEQ ID NO 30
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ORGANISM: Homo sapiens
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US-10-646-308-30
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Publication Noi US20030040094A1

GENERAL INPORMATION:
APPLICANT: BEAUDOIN, Adrien R.
APPLICANT: BACK, Simon
TITLE OF INVENTION: THEREOF AND PROCESS OF PURIFICATION
TITLE OF INVENTION: THEREOF AND PROCESS OF PRODUCING THEREOF BY RECOMBINANT
TITLE OF INVENTION: THEREOF AND PROCESS OF PRODUCING THEREOF BY RECOMBINANT
TITLE OF INVENTION: THEREOF AND PROCESS OF PRODUCING THEREOF BY RECOMBINANT
TITLE OF INVENTION WINGER: US/09/781,796B
CURRENT APPLICATION NUMBER: US/09/781,796B
CURRENT FILING DATE: 1995-04-10
PRIOR PILING DATE: 1995-04-10
PRIOR PILING DATE: 1998-02-01
PRIOR PILING DATE: 1998-02-01
NUMBER OF SEC ID NOS: 8
SEC ID NO 1
SEC ID NO 1
CHARTH: $10
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                                   38 TQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQK
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ORGANISM: Homo sapiens
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US-09-781-796B-1
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Sequence 4, Application US/09835147

Sequence 4, Application US/09835147

Setent No. US20020002277A1

GENERAL INFORMATION:

APPLICANT: Maliszewski, Charles R.

APPLICANT: Gayole III, Richard B.

APPLICANT: Gimpel, Steven D.

TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment

FILE REFERENCE: 2879-US

CURRENT APPLICATION NUMBER: US/09/835,147

CURRENT APPLICATION NUMBER: US 60/104,585

PRIOR FILING DATE: 1998-10-16

PRIOR FILING DATE: 1998-11-06

PRIOR FILING DATE: 1999-10-13

PRIOR PLILING DATE: 1999-10-13

PRIOR FILING DATE: 1999-10-13

NUMBER: PAPLICATION NUMBER: PCT/US99/22955

PRIOR FILING DATE: 1999-10-13

SOFTWARE: PATENT NOW S: 31

SOFTWARE: PATENT NOW S: 31

SEQ ID NO 4

LEASTH: 476

LEASTH: 476

LEASTH: 476
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                        398 KTSYAGVKEKYLSEYCFSGTYILSLLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLN
CPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEEI
                                                                                  KTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLN
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NAME/KEY: VARIANT
LOCATION: (39)
OTHER INFORMATION: Any amino acid, preferably Cys or Ser
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96.2%; Score 2294; DB 9; Length 476;
Best Local Similarity 98.6%; Pred. No. 4.4e-202;
Matches 431; Conservative 0; Mismatches 2; Indels
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ORGANISM: Artificial Sequence
FEATURE:
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US-09-835-147-4
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               371 SYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLNLT
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Jeacuence 55, Application US/09557800C

Patent No. 6476211

GENERAL INFORMATION:

APPLICANT: Ford, John

APPLICANT: Yeung, George

TITLE OF INVENTION: Polypeptides

FILE REFERENCE: 28110/36457

CURRENT APPLICATION NUMBER: US/09/557,800C

CURRENT PILING DATE: 2000-04-25

PRIOR PILING DATE: 2000-01-11

PRIOR PILING DATE: 1999-00-01

PRIOR PILING DATE: 1999-00-01

PRIOR PILING DATE: 1999-07-16

PRIOR PILING DATE: 1999-07-16

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                                                                                                         US-09-240-639-15
US-09-908-510A-15
US-09-908-744B-15
US-10-107-660-15
US-09-905-743B-15
US-09-905-732B-15
US-09-129-112-2
US-09-129-112-15
US-09-240-639-16
US-09-908-510A-16
US-09-908-510A-16
US-10-107-576-16
US-10-107-576-16
US-10-107-576-16
                                          US-09-905-732B-14
US-09-905-743B-14
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Best Local Similarity 100.
Matches 439; Conservative
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RESULT 3

US-08-930-921-1

US-08-930-921-1

Sequence 1, Application US/08930921B

Patent No. 6287837

GENERAL INPORMATION:

APPLICANT: BEAUDOIN, Adrien R.

APPLICANT: BEAUDOIN, Adrien R.

TITLE OF INVENTION: THEREOF AND PROCESS OF PRODUCING THEREOF BY RECOMBINANT

TITLE OF INVENTION: TECHNOLOGY

TITLE OF INVENTION: TECHNOLOGY

FILE REFERENCE: ATP-DIPHOSPHOHYDROLASES-BRAUDOIN

CURRENT FILING DATE: 1998-01-02

BARLIER APPLICATION NUMBER: PCT/CA96/00223

BARLIER APPLICATION NUMBER: PCT/CA96/00223

BARLIER PETING DATE: 1996-04-10

NUMBER OF SEQ ID NOS: 8

SOFTWARE: PATENTING DATE: 2.0

SEQ DID NO 1

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                                   369 KTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLN
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98.4%; Score 2348; DB 3; Length 510;
Best Local Similarity 100.0%; Pred. No. 3.6e-243;
Matches 439; Conservative 0; Mismatches 0; Indels
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gequence 38, Application US/09370625A

gequence 38, Application US/09370625A

general No. 660032

general INFORMATION:

APPLICANT: Mulero, Julio

TITLE OF INVENTION: METHODS AND MATERIALS RELATING TO NOVEL CD39-LIKE POLYPEPTIDES

TITLE OF INVENTION: METHODS AND MATERIALS RELATING TO NOVEL CD39-LIKE POLYPEPTIDES

TITLE OF INVENTION: METHODS AND MATERIALS RELATING TO NOVEL CD39-LIKE POLYPEPTIDES

CURRENT APPLICATION NUMBER: US/09/370,625A

CURRENT FILING DATE: 1999-07-16

PRIOR FILING DATE: 1999-07-16

PRIOR FILING DATE: 1999-07-09

PRIOR FILING DATE: 1999-07-09

PRIOR FILING DATE: 1999-03-19

NUMBER OF SEQ ID NOS: 39

SOFTWARE: PALENTIN VAY: 2.0

SEQ ID NO 38

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CRGANISM: Homo sapiens
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ORGANISM: Homo sapiens
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                                                           APPLICANT: BEAUDOIN, Adrien R.
APPLICANT: BEAUDOIN, Jean
APPLICANT: BACH, Fritz H.
APPLICANT: BACH, Fritz H.
APPLICANT: BACH, Fritz H.
APPLICANT: APPLICANT: APPLICANT: BACH, Simon
TITLE OF INVENTION: ATP-DIPHOSPHOHYDROLASES, PROCESS OF PURIFICATION
TITLE OF INVENTION: TECHNOLOGY
TITLE OF INVENTION: TECHNOLOGY
FILE REFERENCE: 92033.90019
CURRENT APPLICATION NUMBER: US/09/781,796C
CURRENT FILING DATE: 1995-04-10
PRIOR FILING DATE: 1995-04-10
PRIOR FILING DATE: 1996-04-10
PRIOR FILING DATE: 1996-04-10
PRIOR FILING DATE: 1996-04-10
PRIOR FILING DATE: 1996-02-01
PRIOR FILING DATE: 1996-02-01
NUMBER OF SEQ ID NOS: 8
SOFTWARE: PALCENTIN VEN. 2.1
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                  ; Sequence 1, Application US/09781796C
; Patent No. 6800284
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US-09-240-639-4
Sequence 4, Application US/09240639
Patent No. 6350447
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Best Local Similarity 100.
Matches 439; Conservative
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US-09-781-796C-1
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LENGTH: 510
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GENERAL INFORMATION:

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Sequence 4, Application US/09908510A

Reference 4, Application US/09908510A

Reference 4, Application US/09908510A

Reference 4, Application US/09908510A

GENERAL INFORMATION:

APPLICANT: Chadwick, Brian Paul

APPLICANT: Chadwick, Brian Maria

TITLE OF INVENTION: METHODS AND COMPOSITIONS RELATING TO CD39-LIKE POLYPEPTIDES AND

TITLE OF INVENTION: ACIDS

FILE REFERENCE: 28110/36120B

CURRENT APPLICATION NUMBER: US/09/908,510A

FRICH APPLICATION NUMBER: 09/240,639

REACH RELIED APPLICATION NUMBER: 09/240,639

REACH RELIED APPLICATION NUMBER: 09/240,639

NUMBER OF SEQ ID NOS: 32

SOFTWARE: Patentin version 3.1

LENGTH: 529
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APPLICANT: Chadwick, Brian Paul
APPLICANT: Frischauf, Anna-Maria
TITLE OF INVENTION: METHODS AND COMPOSITIONS RELATING TO CD39-LIKE
TITLE OF INVENTION: METHODS AND NUCLEIC ACIDS
FILE REFERENCE: 9598-066
CURRENT APPLICATION NUMBER: US/09/240,639
CURRENT APPLICATION NUMBER: US/09/240,639
SUFFRENCE: Patentin Ver. 2.0
SEQ ID NO 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     7;
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ORGANISM: Homo Sapiens
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190 TQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVA-SNEI 248
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APPLICANT: Chadwick, Brian Paul
APPLICANT: Frischauf, Anna-Maria
TITLE OF INVENTION: METHODS AND COMPOSITIONS RELATING TO CD39-LIKE
TITLE OF INVENTION: METHODS AND COMPOSITIONS
FILE REPERRENCE: 9598-066
CURRENT APPLICATION NUMBER: US/10/10/7,660
CURRENT FILING DATE: 2002-03-27
PRIOR PLING DATE: 1998-01-29
NUMBER OF SEQ ID NOS: 2.9
SOFTWARE: PATCHTIN Ver. 2.0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; Sequence 4, Application US/10107660; Patent No. 6780977; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                   MLNLTNMIPAEOPL 439
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464 MLSLTNQIPAESPL 477
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US-10-107-660-4
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APPLICANT: Chadwick, Brian Paul
APPLICANT: Chadwick, Anna Maria
APPLICANT: Friechauf, Anna Maria
TITLE OF INVENTION: METHODS AND COMPOSITIONS RELATING TO CD39-LIKE POLYPEPTIDES AND
TITLE OF INVENTION: ACIDS
FILE OF INVENTION: ACIDS
FILE SEPERBNCE: 28110/36120A
CURRENT APPLICATION NUMBER: US/09/905,744B
FILE REPERBNCE: 2001-07-13
PRIOR APPLICATION NUMBER: 09/240,639
PRIOR FILING DATE: 1999-01-29
NUMBER OF SEQ ID NOS: 32
SOFTWARE: Patentin version 3.1
SEQ ID NO 4
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                              38.2%; Score 910.5; DB 4;
41.5%; Pred. No. 1.3e-88;
tive 79; Mismatches 168;
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MLSLTNQIPAESPL 477
                                                                      180; Conservative
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                                                     Similarity
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APPLICANT: Chadwick, Brian Paul
APPLICANT: Crackwick, Anna Maria
TITLE OF INVENTION: METHODS AND COMPOSITIONS RELATING TO CD39-LIKE POLYPEPTIDES AND
FILE REPERENCE: 28110/361208
CURRENT APPLICATION NUMBER: US/09/905,7328
CURRENT FILING DATE: 2001-07-13
PRIOR APPLICATION NUMBER: 09/240,639
PRIOR FILING DATE: 1999-01-29
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US-09-923-304-4

Sequence 4, Application US/09923304

Patent No. Papel 1

GENERAL INFORMATION:

APPLICANT: MIND HAND:

APPLICANT: MIND BETCOME US/09923304

TITLE OF INVENTION:

CURRENT APPLICATION UNDER: US/09/923,304

CURRENT FILING DATE: 2001-08-06

NUMBER OF SEQ ID NOS: 11

SOFTWARE: Patent In Ver. 2.1

LENGTH: 529
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41.5%; Pred. No. 1.3e-88;
tive 79; Mismatches 168;
                                                                                                                                                          NUMBER OF SEQ ID NOS: 32
SOFWARE: Patentin version 3.1
SEQ ID NO 4
LENGTH: 529
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Best Local Similarity 41.5%
Matches 180; Conservative
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US-09-905-732B-4
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CRGANISM: Homo sapiens
US-09-923-304-4
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APPLICANT: Chidwick, Brian Paul
APPLICANT: Chidwick, Brian Paul
APPLICANT: Chidwick, Anna Maria
TITLE OF INVENTION: METHODS AND COMPOSITIONS RELATING TO CD39-LIKE POLYPEPTIDES AND
TITLE OF INVENTION: ACIDS
FILE REFERENCE: 28110/36120H
CURRENT APPLICATION NUMBER: 09/240,639
PRIOR APPLICATION NUMBER: 09/240,639
PRIOR APPLICATION NUMBER: 09/240,639
NUMBER OF SEQ ID NOS: 32
SOFTWARE: Patentin version 3.1
SEQ ID NO 4
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107 QDVPRAFEECMQKVKGQVPSHLHGSTPIHLGATAGMRLJRLQNETAANBVLESIQSYFKS 166
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Patent No. 6787328
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Patent No. 6783959
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; ORGANISM: Homo Sapiens
US-10-107-576-4
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GENERAL INC. 00.2001.01.

APPLICANT: Chadwick, Brian Paul
APPLICANT: Chadwick, Brian Paul
APPLICANT: Chadwick, Brian Paul
APPLICANT: Chadwick, Brian Maria
TITLE OF INVENTION: METHODS AND COMPOSITIONS RELATING TO CD39-LIKE POLYPEPTIDES AND TITLE OF INVENTION: ACIDS
FILE REFERENCE: 2810/356120C
CURRENT FILING DATE: 2001-07-13
PRIOR APPLICATION NUMBER: 09/240,639
PRIOR APPLICATION NUMBER: 09/240,639
PRIOR PILING DATE: 1999-01-29
NUMBER OF SEQ ID NOS: 32
SOFTWARE: PatentIn version 3.1
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               130 YPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGAS
                                    TOVTEVPONOTIESPDNALOFRLYGKDYNVYTHSFLCYGKDOALWOKLAKDIQVA-SNEI
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41.5%; Pred. No. 1.3e-88;
tive 79; Mismatches 168;
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Best Local Similarity 41.5%
Matches 180; Conservative
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US-09-905-743B-4
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US-09-905-743B-4
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| Sequence 6049, Application US/09949016
| Patent No. 6812839
| GENERAL INFORMATION:
| APPLICANT: VENTER, OF LOURSEMAND OF TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF
| TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF
| FILE REPRENCE: CLOUR307
| CURRENT APPLICATION NUMBER: US/09/949,016
| CURRENT PILING, DATE: 2000-04-14
| PRIOR APPLICATION NUMBER: 60/241,755
| PRIOR FILING DATE: 2000-10-03
| PRIOR FILING DATE: 2000-10-03
| PRIOR FILING DATE: 2000-09-08
| NUMBER OF SEQ ID NOS: 207012
| SEQ ID NO 6049
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                                                                                              10 QNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQKV
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38.2%; Score 910.5; DB 4;
41.5%; Pred. No. 1.3e-88;
ive 79; Mismatches 168;
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                                                    Matches 180; Conservative
                            Similarity
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; ORGANISM: Human
US-09-949-016-6049
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US-09-949-016-6049
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US-US-145-U46-LIDESY
Sequence 11559, Application US/09949016
Patent No. 6812339
GENERAL INFORMATION:
APPLICANT: VENTER, J. Craig et al.
TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED
TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF
FILE REPRENCE: CLOOU3307
CURRENT APPLICATION NUMBER: US/09/949,016
CURRENT FILING DATE: 2000-04-14
PRIOR APPLICATION NUMBER: 60/231,768
PRIOR FILING DATE: 2000-10-20
PRIOR FILING DATE: 2000-10-03
PRIOR FILING DATE: 2000-09-08
NUMBER OF SEQ ID NOS: 2007012
SOFTWARE: FastESQ for Windows Version 4.0
SEQ ID NO 11559
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Best Local Similarity 41.3%; Pred. No. 8.3e-84;
Matches 183; Conservative 69; Mismatches 137; Indels
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Job time: 20.0492 secs
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US-09-949-016-11559
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APPLICANT: VENTER, J. Craig et al.
TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED
TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED
TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF
TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF
CURRENT APPLICATION NUMBER: 105/09/949,016
CURRENT FILING DATE: 2000-10-03
PRIOR FILING DATE: 2000-10-03
PRIOR FILING DATE: 2000-10-03
PRIOR FILING DATE: 2000-09-08
NUMBER OF SEQ ID NOS: 207012
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 11328
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                                                                                                                       MINITINMIPAEOPL 439
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464 MLSLTNQIPAESPL 477
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US-09-949-016-11328
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US-09-949-016-11328
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1 APTSTQNKALPENVKYGIVL......NLFNMIPAEQPLSTPLSHST
GenCore version 5.1.6
(c) 1993 - 2005 Compugen Ltd.
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Listing first 45 summaries
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CPYSQCAFNGIFLPPLQGDFGAFSAFYFVWKFLNLTSEKVSQEKVTEMMKKFCAQPWEEI 397

CPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEEI

KTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLN

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KTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLN

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STQVTFVPQNQTIESPDNALQFRLYGKDXNVYTHSFLCYGKDQALWQKLAKDIQVASNEI

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		C;Species: Homo Bapiens (man)	S: Hollio	Bapler	is (mail)	,		100 00 00 00 00 00 00 00 00 00 00 00 00
		C;Date: U2-Jul-1996 C;Accession: I56242	on: 156	242	sedneuce	, I	c;bace: 02-0ul-1996 #sequence_revision 02-0ul-1996 #text_cmange C:Accession: 156242	
		R; Maliszewski, C.R.; Delespesse,	wski, C	.R.; L	етеврев	, ae,	G.J.; Schoenborn, M.A.; Armitage,	nitage, R.J.; Fanslow, W.C.;
		J. Immunol. 153, 3574-3583, 1994	11. 153,	3574-	3583, 1	994	4	
		A; Intle: The CD39 Iymphold cell A; Reference number: I56242; MUID	The CD3	er: 15	56242; N	TIP TIP	A;litte: The CD39 Lymphold cell activation antigen, Molecul A;Reference number: I56242; MUID:95015846; PMID:7930580	
		A; Accession: I56242	ion: 156	242				
		A;Status: preliminary A;Molecule type: mRNA	prelim e type:	inary; mRNA	transl	ate	A;Status: preliminary; translated from GB/EMBL/DDBJ A;Molecule type: mRNA	
	,	A; Residues: 1-510 <res></res>	38; Î-51	O <res< th=""><th>^</th><th>9</th><th></th><th></th></res<>	^	9		
		A;Cross-r C;Superfa	rererenc nmily: n	ucleos	side tri	pho.	A;cross-reierences: UNIPKOI:P49961; GB:S/3813; NID:g/65255; P C;Superfamily: nucleoside triphosphatase chromatin-associated	FibN:AAB3Z15Z.1; Fib:g/65Z56 ed
	5	Query Match Best Local	Query Match Best Local Similarity	ilarit		99.2%;	Score 2348; DB 2; I Pred. No. 1.2e-182;	510;
£		Matches	439;	Conse	Conservative	as.	~	ls 0; Gaps 0;
		ò	5 TO	NKALPE	SNVKYGIV	7LDA	TQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQK	ECRVKGPGISKFVQK 64
-		qq	38 TQ	NKALPE	SNVKYGIV	TDA	TONKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQK	SCRVKGPGISKFVQK 97
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A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-405 <STO>
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Dysorbetical protein F7A19.34 [imported] - Arabidopsis thaliana
C;Species: Arabidopais thaliana (mouse-ear cress)
C;Species: Arabidopais thaliana (mouse-ear cress)
C;Species: Arabidopais thaliana (mouse-ear cress)
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C;Species: Arabidopais thaliana (mouse-ear cress)
C;Species: Arabidopais thaliana
C;Species: Arabidopais thaliana
C;Accession: B68276
C;A;Theologis, A.; Ecker, J.R.; Palm, C.J.; Federspiel, N.A.; Kaul, S.; White, O.; Alonso, Chin, C.W.; Chung, M.K.; Comu, L.; Conway, A.B.; Conway, A.R.; Creasy, T.H.; Dewar, K.; ansen, N.F.; Hughes, B.; Huizar, L.
Nature 408, 816-820, 2000
A;Authors: Huizar, L.; Johnson-Hopson, C.; Khan, S.; Khaykin, B.; Kim, C.C.A.; Li, J.H.; Li, Y.; Lin, X.; Liu, S.X.; Liu, Z.A.; Lucos, J.S.; Maiti, R.; Marziali, Rizzo, M.; Rooney, T.; Rowley, D.; Sakano, H.
A;Authors: Salzberg, S.L.; Schwartz, J.R.; Southwick, A.M.; Sun, H.; Tallon, ker, M.; Wu, D.; Yu, G.; Fraser, C.M.; Veriser, M.; Wu, D.; Yu, G.; Fraser, C.M.; Veriser, M.; Wu, D.; Yu, G.; Fraser, C.M.; Veriser, M.; Wu, D.; Yu, G.; Fraser, C.M.; Veriser, M.; Maccession: B66276
A;Status: preliminary
A;Accession: B66276
A;Status: preliminary
A;Accession: B66276
A;Cross-references: UNIPROT:Q9X162; GB:AE005172; NID:g5080801; PIDN:AAD39311.1; GSPDB:GN
C;Genetics:
A;Map position: 1
C;Superfamily: nucleoside triphosphatase chromatin-associated
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hypothetical protein F14L17.1 - Arabidopsis thaliana
C;Species Arabidopsis thaliana (mouse-ear cress)
C;Species 2-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004
C;Accession: B86276
C;Accession: B86276
R;Theologis, A.; Ecker, J.R.; Palm, C.J.; Federspiel, N.A.; Kaul, S.; White, O.; Alonso, Chin, C.W.; Chung, M.K.; Conn, L.; Conway, A.B.; Conway, A.R.; Creasy, T.H.; Dewar, K.;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        337 LLKEGKENČLÝEHČSIGSTFTPDĽQĞSFLATASFÝYTAKFFEĽ-EEKGWLSELIPAGKRY 395
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al Similarity 31.3%; Pred. No. 5e-33;
135; Conservative 70; Mismatches 164; Indels
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Nature 408, 816-820, 2000
A.Authors: Hunter, J.L.; Jenkins, J.; Johnson-Hopson, C.; Khan, S.; Khaykin, E.; Kim, C., C.A.; Li, J.H.; Li, Y.; Liu, S.X.; Liu, Z.A.; Luros, J.S.; Maiti, R.; Marziali, Rizzo, M.; Rooney, T.; Rowley, D.; Sakano, H.
A;Authors: Salzberg, S.L.; Schwartz, J.R.; Shinn, P.; Southwick, A.M.; Sun, H.; Tallon, I ker, M.; Wu, D.; Yu, G.; Fraser, C.M.; Venter, J.C.; Davis, R.W.
A;Title: Sequence and analysis of chromosome 1 of the plant Arabidopsis.
A;Reference number: A86141; MUID:21016719; PMID:11130712
                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Cross-references: UNIPROT:Q9M9T7; GB:AE005172; NID:g7262666; PIDN:AAF43924.1; GSPDB:GNC C;Genetics:
A;Map position: 1
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R;Dietrich, F.S.
submitted to the EMBL Data Library, December 1994
A;Description: The sequence of S. cerevisiae cosmids 9537, 9581, 9495, 9867, and lambda A;Reference number: S50433
A;Accession: SS0463
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  279 QQFEIQGIGNYQQCHQSILELF--NTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKF 336
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C,Species: Saccharomyces cerevisiae
C,Date: 28-May-1993 #sequence_revision 24-Feb-1995 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     29 PGLSSYADNPEGASVSVTKLVEFAKGRIPKGKLKKSDIRLMATAGMRLLDVPVQE---QI
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 405;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ouery Match 19.8%; Score 469.5; DB 2; Best Local Similarity 31.2%; Pred. No. 3e-30; Matches 123; Conservative 65; Mismatches 145;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       424
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A;Cross-references: SGD:S0000807
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Db 224 NEATRYLGLLIESENGKVGRTLSDPCSLRG	RESULT 6 G84442 probable nucleoside triphosphatase [imported] - Arabidopsis thaliana C;Species: Arabidopsis thaliana (mouse-ear cress) C;Date: 02-Feb-2001 #sequence_revision 02-Feb-2001 #text_change 09-Jul-2004 C;Accession: G84442 C;Accession: G84442 R;Lin, X.; Moffat, R.S.; Cronin, L.A.; Shea, T.P. Benito, M.I.; Town, C.D.; Fujii, C.Y.; M.; Koo, H.; Moffat, K.S.; Cronin, L.A.; Shea, M.; VanAken, S.E.; Umayam, L.; Tallon, L. euss, D.; Nierman, W.C.; White, O.; Bisen, J.A.; Salzberg, S.L.; Fraser, C.M.; Venter, J. Nature 402, 761-768, 1999 A;Title: Sequence and analysis of chromosome 2 of the plant Arabidopsis thaliana. A;Reference number: A84420; MUID:20083487; PMID:10617197 A;Recession: G84442 A;Status: preliminary A;Molecule type: DNA A;Recession: 1-516 c5570> A;Cross-references: INIPROT: G8612; G81246121; PIDN:AAC32915.1; GSPDB:GN	C; Genetics: A; Genetics: A; Genetics: A; Genetics: C; Genetics: A; Gene: At2g02970 A; Map position: C; Superfamily: nucleoside triphosphatase chromatin-associated C; Superfamily: nucleoside triphosphatase chromatin-associated C; Superfamily: nucleoside triphosphatase chromatin-associated C; Superfamily: nucleoside triphosphatase chromatin-associated C; Superfamily: nucleoside triphosphatase chromatin-associated C; Superfamily: nucleoside triphosphatase chromatin-associated C; Superfamily: nucleoside triphosphatase chromatin-associated C; Superfamily: nucleoside triphosphatase chromatin-associated C; Superfamily: nucleoside triphosphatase chromatin-associated C; Superfamily: nucleoside triphosphatase chromatin-associated C; Superfamily: nucleoside triphosphatase chromatin-associated C; Superfamily: nucleoside triphosphatase chromatin-associated C; Superfamily: nucleoside triphosphatase chromatin-associated C; Superfamily: nucleoside triphosphatase chromatin-associated C; Superfamily: nucleoside triphosphatase chromatin-associated C; Superfamily: nucleoside triphosphatase chromatin-associated C; Superfamily: nucleoside triphosphatase chromatin-associated C; Superfamily: nucleoside triphosphatase chromatin-associated C; Superfamily: nucleoside triphosphatase chromatin-associated C; Superfamily: nucleoside triphosphatase chromatin-associated C; Superfamily: nucleoside triphosphatase chromatin-associated C; Superfamily: nucleoside triphosphatase chromatin-associated C; Superfamily: nucleoside triphosphatase chromatin-associated C; Superfamily: nucleoside triphosphatase chromatin-associated C; Superfamily: nucleoside triphosphatase chromatin-associated C; Superfamily: nucleoside triphosphatase chromatin-associated C; Superfamily: nucleoside triphosphatase chromatin-associated C; Superfamily: nucleoside triphosphatase chromatin-associated C; Superfamily: nucleoside triphosphatase chromatin-associated C; Superfamily: nucleoside triphosphatase chromatin-associated C; Superfamily: nucleoside triphosphatase chromatin-ass	ANIFALGSLGGDPLKTTGI LYGENVYTHSFLCYGKDQALW-OKLA LYGENYTHSFLCYGKDQALW-OKLA SGUYTNLYSHSFLHFGQNAAHDKLWGSLLS SDLYKTPCTKRFEMTLPFQQFEIQGIGNYC SGDFGAESAFYFVMKFLNLTSEKVSQEKYT CQGFGAFSAFYFVMKFLNLTSEKVSQEKYT
Qy 13 NVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVK-GPGI 58 Db 7 NDRFGIVLDAGSSGSRIHVFKWQDTESLLHATNQDSQSILQSVPHIHQEKDWTFKLNPGL 66 Qy 59 SKFVQKVNE-IGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLAMESEELADRVLD 117 C	OY 219 SFLCYGKDQALWQKLAKDIQVASNEILRDDPCFHPGYKKVVNVSDLYKT 266 310 TWLGFGANQARRRYLAQLINTLPENTNDFSTRNLNDPCMPRGSSTDF 281 QY 267 PCTKRPEMTLPPQQFEIQGIGNYQQCHQSILE-LFNTSYCPYSQCAFNGIPLPPLQGDF-324	RESULT 5 T40856 probable nucleotide phosphatase - fission yeast (Schizosaccharomyces pombe) C;Species: Schizosaccharomyces pombe C;Accession: T40856 R;Ramsperger, U.; Pohl, T.; Wood, V.; Rajandream, M.A.; Barrell, B.G. R;Ramsperger, U.; Pohl, T.; Wood, V.; Rajandream, M.A.; Barrell, B.G. R;Ramsperger, T40856 R;Ramsperger, T40856 A;Accession: T40856 A;Accession: T40856 A;Accession: T40856 A;Accession: T40856 A;Accession: T502 cRAM> A;Molecule type: DNA A;Accession: T572 cRAM> A;Accession: T572 cRAM> A;Accession: T672 cRAM> A;Gross-references: UNIPROT:Q9USP2; EMBL:AL121783; PIDN:CAB57847.1; GSPDB:GN00068; SPDB:A;Gene: SPDB:SPCC11B10.05c A;Gene: SPDB:SPCC11B10.05c A;Map position: 3	Query Match 17.6%; Score 416; DB 2; Length 572; Best Local Similarity 27.3%; Pred. No. 1.16-25; Matches 131; Conservative 69; Mismatches 156; Indels 124; Gaps 19; Qy 15 KYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVECRVKGPGISKFV 62

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A;Authors: Salzberg, S.L.; Schwartz, J.R.; Shinn, P.; Southwick, A.M.; Sun, H.; Tallon, I ker, M.; Wu, D.; Yu, G.; Fraser, C.M.; Venter, J.C.; Davis, R.W.
A;Title: Sequence and analysis of chromosome 1 of the plant Arabidopsis.
A;Reference number: A86141; MUID:21016719; PMID:11130712
A;Accession: Cariforn A; Sequence number: A86141; MUID:21016719; PMID:11130712
A;Scatus: preliminary
A;Molecule type: DNA
A;Residues: 1-508 csTO>
A;Cross-references: UNIPROT:Q9XI63; GB:AE005172; NID:g5080800; PIDN:AAD39310.1; GSPDB:GNOC;Genetics:
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A;Experimental source: strain Bristol N2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       297 LELF--NTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMM- 353
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C;Species: Caenorhabditis elegans
C;Date: 20-Sep-1999 #sequence_revision 20-Sep-1999 #text_change 20-Sep-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  13 NVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVK-GPGISKFVQKVNEIGIY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             185 STQVTFVPQNQTIESPDNALQFRLYGK-DYNVYTHSFLCYGKDQALWQKLAKDI-QVASN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 508;
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A;Gene: CESP:R07E4.4
A;Introns: 39/1; 67/1; 145/2; 192/1; 244/3; 317/3; 451/3; 488/2
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C,Superfamily: nucleoside triphosphatase chromatin-associated
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R;Miller, N.
submitted to the EMBL Data Library, October 1995
A;Description: The sequence of C. elegans cosmid R07B4.
A;Reference number: Z18561
A;Accession: T16696
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 16.7%; Score 394.5; DB 2; Best Local Similarity 28.2%; Pred. No. 5.1e-24; Matches 123; Conservative 71; Mismatches 171;
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A;Molecule type: DNA
A;Residues: 1-557 <MIL>
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C96276
7A19.33 protein - Arabidopsis thaliana
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004
C;Accession: C86276
R;Theologis, A.; Ecker, J.R.; Palm, C.J.; Federspiel, N.A.; Kaul, S.; White, O.; Alonso, Chin, C.W.; Chung, M.K.; Conn, L.; Conway, A.B.; Conway, A.R.; Creasy, T.H.; Dewar, K.; ansen, N.F.; Hughes, B.; Huizar, L.
Nature 408, 816-820, 2000
A;Authors: Hunter, J.L.; Jenkins, J.; Johnson-Hopson, C.; Khan, S.; Khaykin, E.; Kim, C.G., Li, J.H.; Li, Y.; Lin, X.; Liu, S.X.; Liu, Z.A.; Luxos, J.S.; Maiti, R.; Marziali, Rizzo, M.; Rooney, T.; Rowley, D.; Sakano, H.
                                                                                                                                                                                        hypothetical protein C33H5.14 - Caenorhabditis elegans
C.Species: Caenorhabditis elegans
C.Species: Caenorhabditis elegans
C.Species: Oct-1999 #sequence_revision 29-Oct-1999 #text_change 09-Jul-2004
C.Accession: T44147
R.Bradshaw, H.; Stellyes, L.
submitted to the EMBL Data Library, November 1995
A.Description: The Sequence of C. elegans cosmid C33H5.
A.Reference number: Z21482
A.Reference number: Z21482
A.Residues: Traininary; translated from GB/EMBL/DDBJ
A.Status: preliminary; translated from GB/EMBL/DDBJ
A.Status: preliminary; translated from GB/EMBL/DDBJ
A.Status: L485 & GRA>
A.Residues: 1-485 & GRA>
A.Residues: L1485 & GRA>
A.Residues: Caenores: UNIPROT:Q18411; EMBL:U41007; PIDN:AAA8272.1; CESP:C33H5.14
A.Bxperimental source: strain Bristol N2
C.Genetics:
A.Gene: CESP:C33H5.14
A.Introns: 22/1; 83/1; 120/2; 167/1; 269/3; 399/3
C.Superfamily: nucleoside triphosphatase chromatin-associated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       82 VEYLTPLIRFAEEHIPYEQLGETDLLIFATAGMRLIPEAQKDAIIKNLQNGLKSVTALRV 141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SDSNIRIIDGAMEGIYSWIAVNYILGRFDKE------NDSKVGMIDMGGASVQI 189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      189 TFVPQNQTIESPD--NALQFRLYGKD-----YNVYTHSFLCYGKDQALWQKLAKDIQVA 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241 SNEILKDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELF 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       286 GDKAQPSCPNPTCFLRNVIAPSVNLSTVQLYGFSEYWYTTSNFGSGGE-YHYQKFTDEVR 344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         355 KFCAQPWEEI-----KTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHI-HFIG 408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        345 KYCQXDWNDIQDGFKRNEFPNADIERLGTNCFKAAWVISVLHDG--FNVDKTKHLFQSVL 402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                69 GIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSNYPF 128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNOETFGALDLGGASTQV 188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -----EFTVNGTGEWDVCLAQVSSLI 285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301 NTS---YCPYSQCAFNGIFLPPLQ---GDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMK 354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          22 NIKYGVICDAGSSGTRLFVYTLKPLSGGLTNIDTLIHESEPVVKKVTPGLSSFGDKPEQV 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              13 NVKYGIVLDAGSSHTSLYIYKWPAEKENDTGV---VHQVEECRVK-GPGISKFVQKVNEI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    63;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      17.0%; Score 402.5; DB 2; Length 485; llarity 26.7%; Pred. No. 1.1e-24; Conservative 69; Mismatches 187; Indels 63
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Matches 116; Conserv
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Qy 190 FVPQNQTIESPDNALQFRLYGKDYNYTHSFLCYGKDQALWQKLAKDIQVASNEIL 245 Db 294 FERFRASDGESLVDGHKYVLDYNGEQYELYQHSHLGYGLKAARKLIHKFVLNNAEAL 351 Qy 246 RDPCFHPGYKKVNVVSDLYKTPGTKREMTLPFQQFELQGIG 287 Db 352 KBSLELLGDSTSIIHPCLHLNASLTHPDSKGEASEVVFVGPSLAHLSLQCRGIA 405 Qy 288 NYQQCHQSILELFNTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSE 342 Db 406 BKALYKDKNCPVRPCSFNGVHQPKFTFTFTDSPIYLISYFYDRMISLAGNES- 456 Qy 343 KVSQEKVTEMMKKFCAQPWEBIKTSYAGVKE-KYLSBYCFSGTYILSLLLQCYHFTAD 399 Cy 457 TFTIEDMKYLANSVCSGPTYWQDAFSLTDALKELKEBPEWCLDLNYMISLLSVGYEIPNN 516 Qy 457 TFTIEDMKXLANSVCSGPTYWQDAFSLTDALKELKEBPEWCLDLNYMISLLSVGYEIPNN 516 Qy 517RQLHTAKKIDNKELGASLSM 540	RESULT 11 \$48859 nucleoside triphosphatase precursor, chromatin-associated - garden pea C;Species: Pisum sativum (garden pea) C;Species: Pisum sativum (garden pea) C;Date: 13-Jan-1995 #sequence_revision 13-Jan-1995 #text_change 09-Jul-2004 C;Date: 13-Jan-1995 #sequence_revision 13-Jan-1995 #text_change 09-Jul-2004 C;Accession: \$65147; \$48859 R;Hsieh, H.L.; Tong, C.G.; Thomas, C.; Roux, S.J. Plant Mol. Biol. 30, 135-147, 1996 A;Title: Light-modulated abundance of an mRNA encoding a calmodulin-regulated, cl A;Reference number: \$65141; MUID:96197404; PMID:8616230 A;Accession: \$65147 A;Molecule type: mRNA A;Residues: 1-455 cHS2> A;Cross-references: UNIPROT:F52914; EMBL:Z32743; NID:g563611; PIDN:CAA83655.1; P.C;Superfamily: nucleoside triphosphatase chromatin-associated C;Keywords: nucleus	Ouery Match 15.9%; Score 376; DB 2; Length 455;	214 NVYTHSPLCYGKDQALWQKIAKDIQVASNBILRDPCFHPGYKKVVNVSDLYKTP 215 DLYHSYLHGRBASRABILKLTPRSPNPCLLAGFNGIYTYGG 268 CTKRFBWTLPFQQFBIQGIGNYQCHQSILBLFNTSY-CPYSQCAFNGIFLPPLQGDFG 269 CTKRFBWTLPFQQFBIQGIGNYQCHQSILBLFNTSY-CPYSQCAFNGIFLPPLQGDFG 260 -EBFKATAYTSGANFNKCKNTIRKALKLNYPCPYQNCTFGGIWNGGGGN 326AFSAFYPWKFLNLTSEKVSQEKVTEMMKKFCAQPWEBIKTSYAGKKK 327 SYLSEY-CFSGTYILSLLLQGYHFTADSWBHIFFIGKIQGSDAGWTLGYMLNTTNNI 375 YLSEY-CFSGTYILSLLLQGYHFTADSWBHIFFIGKIQGSDAGWTLGYMLNTTNNI 388 NVASYVCMDLIXQYVLLVDGFGLDPLQKITSGKEIEYQDAIVEAAWPLGNAVEAISAL
Qy 1 APPSTQNKALPENVKYGIVLDAGSSHTSLYIYKWPABKKENDTGYVHQVBECRVK-G 55 Db 29 AHTSPKVIADDQERSYGVICDAGSTGTRLFVYNWISTSDSELIQIEPVIYDNKPVWKKIS 88 Qy 56 PGISKFVQKVNBIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMBLLRMESBELADRV 115	Qy 273 EMTLPFQQFEIQGIGNYQQCHQSILELENTSYCPYSQCAFNGIFLPPLQG-D 323 Db 311GENFVRRGTGNWNTCSNEVKKLIAPESSSEVCKAEAAKCYFGAVPAPSIPLSNIE 365 Qy 324 FGAFSAFYFVWKFLIALESNEKVSQEKVTEMWKKFCAQPWEEIKTSYAGVKEKYLSE 378 Db 366 MYGFSEYWYSTHDVLGLGGQYDAENIAKKTQOYCSKRWSTIQAESKKQLYPRADEERLRT 425 Qy 379 VCFSGTYILSLLLQGYHPTADSWEHIHFIGKIQGSDAGWTLGYMLNITNMIPAEQ 433 Db 426 QFFKSAMITSVLHGG-FSVDK-THNKFQSVSTIAGQEVQWALGAMIYHMRFFPLRDSSR 482 Qy 434 PLSTPLSHST 443 Pb 483 NLIVKETHSS 492	RESULT 10 T39109 probable quanosine-diphosphatase - fission yeast (Schizosaccharomyces pombe) c;Species: Schizosaccharomyces pombe c;Species: Schizosaccharomyces pombe c;Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 09-Jul-2004 C;Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 09-Jul-2004 C;Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 09-Jul-2004 C;Barrell, B.G.; Rajandream, M.A.; Quail, W.; Seegar, K.; Harris, D. A;Barrell, B.G.; Rajandream, M.A.; Quail, W.; Seegar, K.; Harris, D. A;Reference number: 221828 A;Reference number: 221828 A;Reference number: DNA A;Residues: b.A. A;Residues: 1-556 cBRA> A;Residues: 1-556 cBRA> A;Cross-references: UNIPROT:Q9UT35; EMBL:AL121741; PIDN:CAB57338.1; GSPDB:GGenetics: A;Gene: SPDB:SPAG824.08 A;Map position: 1	Query Match 16.1%; Score 381.5; DB 2; Length 556; Best Local Similarity 27.1%; Pred. No. 6.6e-23; Matches 121; Conservative 71; Mismatches 181; Indels 73; Gaps 17; Qy 15 KYGIVLDAGSSHTSLYIXWAPAEKENDTGVVHQVEECRVKGPGISKFVQKVNEIGIYL 72 : :: : :: :

chromatin

PID:95636

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Cyfacterian of the protein Sequence Database, April 1998
RyBevan, M.; Benes, V.; Rechmann, S.; Borkova, D.; Ansorge, W.; Bancroft, I.; Mewes, H.W. submitted to the Protein Sequence Database, April 1998
RyReference number: 215359
AyAccession: T04439
AyAccession: T04439
AyAccession: T04439
AyAccession: T04439
AyAccession: T04439
AyAccession: Columbia; BMD:AL021687
AyExperimental source: cultivar Columbia; BAC clone T18B16
CyGenetics:
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A;Molecule type: DNA
A;Residues: 1-479 <WIL>
A;Residues: 1-479 <WIL>
A;Cross-references: UNIPROT: Q9XU84; EMBL: Z83113; PIDN: CABO5544.1; GSPDB: GN00023; CESP: K(
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             637
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               684
363 YLNAAKVACQTNVADIKSIFPKTQDRNIPYLCMDLIYEYTLLVDG--FGLNPHKEITVIH 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            hypothetical protein KO8H10.4 - Caenorhabditis elegans
Cyspecies: Caenorhabditis elegans
Cyspecies: Caenorhabditis elegans
Cyspecies: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 09-Jul-2004
Cyaccession: T23508
Rydardner, A.
By Reference number: Z19750
Ay Reference number: Z19750
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -----LWQKLA----KDIQVASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      --- QFEIQGIGNYQQCHQSILELFNTSYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKF
                                                                                                                                                                                                                          hypothetical protein T18B16.150 - Arabidopsis thaliana
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 30-Apr-1999 #sequence_revision 30-Apr-1999 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     33 SGVSIKLVGAPNWGEC-----SALAKNAPCALPDGY-PRPHGQFYAVSGFFVVYRF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TNNQETFGALDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQA-
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A;Introns: 79/3; 118/3; 217/1; 295/3; 396/3; 531/2; 815/3
A;Note: T18B16.150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                14.0%; Score 332; DB 2; L4.26.9%; Pred. No. 1.7e-18; ive 70; Mismatches 149;
                                                                                                           449
                                                           409 KIQGSD----AGWTLGYMLNL----TNMI 429
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                                                                                         T----DKQIIIG---SGSITWTLGVAL
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Best Local Similarity 26.9%
Matches 104; Conservative
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                                                                                                                                                                                                           JULEAURE (EC 3.6.1.5) precursor - potato
NyAlternate names: adenylpyrophosphatase; ATP-diphosphobydrolase
C.Species: Solamum tuberosum (potato)
C.Species: Solamum tuberosum (potato)
C.Date: 10-May-1996 #sequence_revision 19-Jul-1996 #text_change 09-Jul-2004
C.SAccession: JC4616; PC4147
C.Accession: JC4616; PC4147
C.Accession: JC4616; PC4147
C.Accession: JC4616; MUID: 9158985; PMID: 8579614
A; Recence number: JC4616; MUID: 96158985; PMID: 8579614
A; Recence number: JC4616
A; Molecule type: mRNA
A; Recession: JC4616
A; Molecule type: mRNA
A; Recession: PC4147
A; Molecule type: protein
A; Residues: 59-5;96-131;132-160;236-253;332-345 < HA2>
A; Experimental source: tubers
A; Experimental source: tubers
A; Experimental source: translated the codon GCA for residue 215 as Gly
C; Comment: This enzyme belongs to a family of E-type ArPases, and it catalyzes the hydro
C; Comment: This enzyme belongs to a family of a type ArPases, and it catalyzes the hydro
C; Comment: This enzyme belongs to a family of a type ArPases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AjGene: rropl
C;Superfamily: nucleoside triphosphatase chromatin-associated
C;Superfamily: nucleoside triphosphatase chromatin-associated
C;Superfamily: nucleoside triphosphatase; transmembrane protein
F;Reyords: glycoprotein; hydrolase; transmembrane predicted <SIG>
F;31-454/Product: APP-diphosphoylatolase #status predicted <MAT>
F;44-65/Region: actin-heat shock protein 70-hexokinase beta-phosphate binding
F;44-65/Region: actin-heat shock protein 70-hexokinase gamma-phosphate binding
F;192-212/Region: nucleotide binding #status predicted
F;390-410,427-446/Region: hydrophobic carboxyl end
F;390-410,427-446/Region: hydrophobic carboxyl end
F;151,262/Binding site: carbohydrate (Asn) (covalent) #status predicted
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -TSYCPYSQCAFNGIFLPPLQGDFG-----AFSAFYFVMKFLNLTSEKVSQE----K 348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    307 INAKCNIEECTFNGVW----NGGGGDGQKNIHASSFFYDIGAQVGIVDTKFPSALAKPIQ 362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      42 ESEHYAVIFDAGSTGSRVHVFRFD-EKLGLLPIGNNIEYFMATEPGLSSYAEDPKAAANS 100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          349 VTEMMKKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIG 408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFN 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           189 TFVPON-QTIESPDN----ALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LIDCMERAREVI PRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVE---RSLSNYPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQKVNEIGIY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                129 DFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGASTQV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity 24.9%; Pred. No. 3.5e-19;
Matches 112; Conservative 80; Mismatches 185; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         <u>:</u>
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                                                                                               P 446
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A;Cross-references: EMBL:U18779; NID:g603625; PIDN:AAB65000.1; PID:g603637; MIPS:YEL042w
C;Genetics:
A;Gene: SGD:GDA1
A;Cross-references: SGD:S0000768; MIPS:YEL042w
A;Mapsition: 5L
C;Function:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           F--DIDSVGAANSLDPLLKVAMNYVPIKARSCTPVAVKATAGLRLLGDAKSSKILSAVRD 192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  118 VVERSLSNYPF----DFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQE 174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   --KDQALWQKLAKDIQVASNE----ILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLP 277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FQQFEIQGIG----NYQQCHQSILELFN-TSYCPYSQCAFNGIFLPPL-----QGDFGA 326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        347 -ETYTIDPIGPDEPSGAQCRFLTDEILNKDAQCQSPPCSFNGVHQPSLVRTFKESNDIYI 405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FSAFYFVMKFLNLTSEKVSQEKVTEMMKKFC--AQPWEEIKTSYAGVKEKYLSE--YCFS 382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    406 FSYFYDRTRPLGMPLSFTLNE-LNDLARIVCKGEETWNSVFSGIAGSLDELESDSHFCLD 464
                                                                                                                                                                                                                                                                                                          A; Description: hydrolase
C; Superfamily: nucleoside triphosphatase chromatin-associated
C; Keywords: glycoprotein; Golgi apparatus; hydrolase; transmembrane protein
F; 10-24/Domain: transmembrane #status predicted <TMM>
F; 10-23/Binding site: carbohydrate (Asn) (covalent) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         78 AVKSQTSQTCSEEHKYVIMIDAGSTGSRVHIYKFDVCTSPPTLL---DEKFDMLEPGLSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 APTSTONKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FVQKVNEIGI - - YLTDCMERAREVIPRSQHQETPVYLGATAGMRLL-RMESEELADRVLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              --TFGALDLGGASTQVTFVPQ---NQTIESPDNALQFRLYGKDYNVYTHSFLCYG----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                298 NKVNSVLVENALKDGKILKGDNTKTHQLSSPCLPP----KVNATNEKVTLBSK----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 73;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             / Match 13.7%; Score 323.5; DB 2; Length 5 Local Similarity 26.6%; Pred. No. 3e-18; nes 123; Conservative 72; Mismatches 195; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            465 LSPOVŠLÍHTGYDIPLO--RELRIGKKÍANKEIGWCLGASLPL 505
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Job time : 14.6708 secs
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   A; Reference number: S50491
                                                                                          A; Residues: 1-518 <DIE>
                                                                A; Molecule type: DNA
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A44073

guanosine-diphosphatase, (EC 3.6.1.42) - yeast (Saccharomyces cerevisiae)

N;Alternate names: protein YEL042**
C;Speciaes: Saccharomyces cerevisiae
C;Date: 21-Sep-1993 #sequence revision 18-Nov-1994 #text_change 09-Jul-2004
C;Accession: A40722; B40732; B30837; S50502
N;Alternate name; Protein YEL042**
C;Accession: A40732; B40732; B40732; S50502
A;Title: Guanosine diphosphatase is required for protein and sphingolipid glycosylation
A;Reference number: A40732; MUID:93308137; PMID:8391537
A;Accession: A40732
A;Note: sequence extracted from NUE! Dackbone (NUEIN:1349392; PIDN:AA34656.1; PID:93493
A;Accession: B4073
A;Accession: B4073
A;Accession: B4073
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A;Accession: S3081
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       354 KKFCAQPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGS 413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EIACREKTEIDDG----SHWMPWQCLDLTYIYSLLRDGYQF--EDNQPLVLAKKIKGM 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TOLIYWPNNEAVFSEHVGYERDIDF -- FGHHIRLFTHSFLGNGLIAARLNILOLETDNEI 270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  240 ASNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILEL 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ESTHOLITSCMPEGYQ-----LITEWEYALKFWNINGSSSHSFESCYGTTKNF 317
                                                                                                                                                                                                                                                                                                                                                                           16 YGIVLDAGSSHTSLYIYKW---PAEKENDTGVVHQVEE---CRVKGPGISKFVQKVNEIG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               157 AAFPDAVNVMPGSDEGVYSWFTLNILLETLFTDE----PTVGHKPAAHRSVAAFDLGGGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IYLTDCMERAREVIPRSOHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSNYPF-
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                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                      Length 479;
                                                   A,Gene: CESP:KO8H10.4
A,Map position: 5
A;Introns: 36/3; 83/3; 189/1; 300/2; 412/3
C;Superfamily: nucleoside triphosphatase chromatin-associated
                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                               DB 2;
                                                                                                                                                                                                               Query Match 13.9%; Score 328.5; DB 2; Best Local Similarity 27.0%; Pred. No. 1.1e-18; Matches 121; Conservative 71; Mismatches 191;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EVSWGQGLAFATANEFQLTEGAIKTALS 448
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clone K08H10
Experimental source:
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9

224 297

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GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
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OM protein - protein search, using sw model Run on:

March 7, 2005, 12:50:51; Search time 62.0612 Seconds (without alignments) 3655.279 Million cell updates/sec

US-09-835-147A-30_COPY_21_463
2368
1 APTSTQNKALPENVKYGIVL......NLTNMIPAEQPLSTPLSHST .443 Title: Perfect score: Sequence:

BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

1612378 seqs, 512079187 residues Searched:

1612378 Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 200000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

UniProt_03:*
1: uniprot_sprot:*
2: uniprot_trembl:* Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

STIMMARTES

	Description	P49961 homo sapien	P55772 mus musculu	Q8cdv7 mus musculu	Q921q6 mus musculu	Q86vv3 homo sapien	P97687 rattus norv	Q9myu4 sus scrofa	_	Q8cebl mus musculu	Q6dfs1 xenopus tro	Q6gp74 xenopus lae	Q6dc46 brachydanio	-	-	Q90x66 gallus gall		035795 rattus norv	O55026 mus musculu	Q921r1 mus musculu		P79784 gallus gall	Q66164 brachydanio	Q6gna4 xenopus lae	Q6nvi9 xenopus tro	Q80z26 rattus norv	O75355 homo sapien	Q9y513 homo sapien	homo	Qabfwe m mus muscu	Q6zm68 brachydanio	Q8n6k2 homo sapien
SUMMARIES	ID	ENP1 HUMAN	ENP1 MOUSE	Q8CD <u>V</u> 7	092106	Q86VV3	ENP1 RAT	ENP1_PIG	ENP1_BOVIN	Q8CEB1	Q6DFS1	Q6GP74	Q6DC46	Q6UQ22	ENP1_CHICK	090x <u>6</u> 6	69WZ9Ö	ENP2_RAT	ENP2 MOUSE	Q921R1	Q7T014	ENP2_CHICK	Q66L64	Q6GNA4	6IVI9	Q80Z26	ENP3 HUMAN	ENP2 HUMAN	0 <u>2</u> nn <u>5</u> 0	Q8BFW6	Q6ZM68	Q8N6K2
	DB	-	н	~	~	~	Н	Н	7	N	~	~	~	~	ч	~	~	-	Н	N	~	н	7	7	~	0	-	Н	~	~	~	7
	Query Match Length DB	510	510	539	510	372	511	510	513	420	508	508	492	497	493	493	454	495	495	495	455	494	502	526	200	529	529	495	458	529	453	452
d	Query	99.2	77.5	77.5	77.3	76.8	75.8	72.4	71.4	66.5	61.2	59.9	55.2	.44.2	42.4	42.1	41.2	41.0	40.7	40.7	40.6	40.2	39.6	39.5	39.4	38.6	38.5	38.3	38.3	38.1	36.1	34.9
	Score	2348	1835	1835	1830	1818	1794.5	1715	1690.5	1574	1450	1418	1306.5	1046	1004	997	975	971.5	964.5	964.5	196	953	937.5	936	933	913.5	910.5	907.5	906.5	902.5	854	825.5
	Result No.	-	7	e	4	S	9	7	80	6	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	56	27	28	29	30	31

Q7yta4 schistosoma Q8k012 mus musculu Q8uvx9 torpedo mar Q9xi6 arabidopsis Q6nqa8 arabidopsis Q64apB arabidopsis Q6z543 oryza sativ Q6frc2 candida gla Q8cv2 mus musculu Q94ez2 arabidopsis Q6dh30 brachidopsis Q6dh30 brachidopsis Q80612 arabidopsis	
07YTA4 08K0L2 08UVX9 09X162 094AP8 091AP8 06ES43 06FKC2 06FKC2 09FEZ2 09M9T7 06M30 080612	
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620.58 596.5 505.5 505.5 504 4491 4485 441.5 469.5	
2 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	

ALIGNMENTS

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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation-the European Bioinformatics Institute. There are no restrictions on its most by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Name=Vascular;
Isodae+49961-1; Sequence=Displayed;
Name=Placental I;
Isolae+49961-2; Sequence=VSP_003607;
Name=Placental I;
Isolae+49961-3; Sequence=VSP_003607;
Isolae+49961-3; Sequence=VSP_003607, VSP_003608, VSP_003609;
ISOUE SPECIFICITY: Expressed primarily on activated lymphoid
calls. Also expressed in andothelial tissues. The vascular isoform and the placental isoform II are present in both placenta and umbilical vein, whereas placental isoform I is present in placenta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE-20107721; PubMed=10636909; DOI=10.1074/jbc.275.3.2057; Koziak K., Kaczmarek E., Kittel A., Sevigny J., Blusztajn J.K., Schulte Am Ejch J. II, Imai M., Guckelberger O., Goepfert C., Qawi I.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            caveolae.";
J. Biol. Chem. 275:2057-2062(2000)
J. Biol. Chem. 275:2057-2062(2000)
J. Biol. Chem. 275:2057-2062(2000)
J. Biol. Chem. 275:2057-2062(2000)
J. Biol. Chem. 275:2057-2062(2000)
J. Biol. Chem. Could also be implicated in the prevention of platelet aggregation. Could also be implicated in the prevention of platelet aggregation.
J. CATALYTIC AND ATP + 2 H(2)O = ANP + 2 phosphate.
J. COFACTOR: Requires calcium and magnesium.
J. SUBUNIT: Homodimer; disulfide-linked (By similarity)
J. SUBCELLULAR LOCATION: Integral membrane protein (Potential).
J. ALTERNATIVE PRODUCTS:
        Makita K., Shimoyama T., Sakurai Y., Yagi H., Matsumoto M., Narita N Sakamoto Y., Saito S., Ikeda Y., Suzuki M., Titani K., Fujimura Y.; "Placental ecto-ATP diphosphohydrolase: its structural feature distinct from CD39, localization and inhibition on shear-induced Int. J. Hematol. 68:297-310(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   only.

PTM: The N-terminus is blocked.

MISCELLANDEOUS: Optimal pH is 7.0-7.5 with ATP as substrate and 7.5-8.0 with ADP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Palmitoylation targets CD39/endothelial ATP diphosphohydrolase
                                                                                                                                                                            MEDILINE=97115858; PubMed=8955160; DOI=10.1074/jbc.271.51.33116; Kaczmarek E., Koziak K., Sevigny J., Siegel J.B., Anrather J., Beaudoin A.R., Bach F.H., Robson S.C.;
                                                                                                                                                                                                                                                                                                                               CHARACTERIZATION.
MEDLINE=96215267; PubMed=8626624; DOI=10.1074/jbc.271.17.10391;
Mang T.F., Guidotti G.;
"CD39 is an ecco-(Ca2+,Mg2+)-apyrase.";
J. Biol. Chem. 271:9898-9901(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SIMILARITY: Belongs to the GDA1 / CD39 NTPase family. DATABASE: NAME=PROW; NOTE=CD guide CD39 entry; WWW="http://www.ncbi.nlm.nih.gov/prow/cd/cd39.htm".
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Event=Alternative splicing; Named isoforms=3;
                                                                                                                                                                                                                                                                                      Biol. Chem. 271:33116-33122(1996)
MEDLINE=99062444; PubMed=9846014;
                                                                                                                                                                                                                                                                    diphosphohydrolase.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                            PALMITOYLATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Robson S.C
                                                                                                                                                                    FUNCTION
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LRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNTSY 304
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                                                                                                                                                                      N-linked (GlCNAC. ) (Potential).
N-linked (GlCNAC. ) (Potential).
N-linked (GlCNAC. ) (Potential).
MEDT -> MKGTKOLTSQQ (in isoform Placental).
                                                                                                                                                                                                                                        VASNEILRDPCFHPGYKKVVNVSDLYKT -> ASITQSRPA
PFTSAPPAPTSCCFLFQIQ (in isoform Placental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CPYSOCAFNGIFLPPLOGDFGAFSAFYFVMKFLNLTSEKVSOEKVTEMMKKFCAQPWEEI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KTSYAGVKEKYLSEYCFSGTYILSLILQGYHFTADSWEHIHFIGKIQGSDAGWTLGYMLN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STOVTFVPONOTIESPDNALOFRLYGKDYNVYTHSFLCYGKDQALWOKLAKDIQVASNEI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   218 STQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TONKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQK
                                                                                                                                                                                                                                                                                                                                                                                                                                125 NYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGA
                                                                                                                                                                                                                                                                                                                                                                                              Gaps
GO; GO:0005887; C:integral to plasma membrane; TAS.
GO; GO:0007596; P:blood coagulation; TAS.
InterPro; IPR000407; GDAI_CD39_NTPASE.
PRAM; PPO1150; GDAI_CD39, 1.
PROSITE; PS01248; GBAI_CD39 NTPASE; 1.
Alternative splicing; Antigen; Calcium; Direct protein sequencing; Glycoprotein; Hydrolase; Lipoprotein; Magnesium; Palmitate;
                                                                                                                                                                                                                                                                        /FTId=VSP_003608.
Missing (in isoform Placental II).
/FTId=SSP_003609.
/FTId=SSP_003609.
SFTIN Ref. 5).
D -> K (in Ref. 4).
T -> TGET (in Ref. 5).
V -> Y (in Ref. 5).
W, BADB7D2499649159 CRC64;
                                                                                                                                            (Potential).
(Potential).
                                                                                                                                                                  (Potential).
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                                                                                                   Potential.
Extracellular (Potential).
                                                                                         Cytoplasmic (Potential).
                                                                                                                               Cytoplasmic (Potential)
N-linked (GlCNAc. . .)
N-linked (GlCNAc. . .)
N-linked (GlCNAc. . .)
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162 D
208 T
248 V
57964 MW;
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nes 439; Conservative
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162
208
248
510 AA;
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RESULT 2 ENP1_MOUSE

AJ133133; CAB41886.1; -. EMBL; S73813; AAB32152.1; -. EMBL; U87967; AAB47572.1; -.

EMBL;

EMBL; AJ133134; CAB41887. PIR; I56242; I56242. Genew; HGNC:3363; ENTPD1. MIM; 601752; -.

244

277

(Potential)

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Mus musculus (Mouse)
   73
226
291
333
428
457
510 AA;
                                                                                                                                                                                                                                                                        al Similarity
337; Conserv
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or send an email to license@isb-sib.ch).
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GO; GO:0005605; C:basal lamina; IDA.

GO; GO:000450; P:aptraes activity; IDA.

GO; GO:000450; P:aptraes activity; IDA.

GO; GO:000186; P:q-protein coupled receptor protein signalin. . .; I

GO; GO:000181; P:purine ribonucleoside diphosphate catabolism; IDA.

GO; GO:000181; P:purine ribonucleoside diphosphate catabolism; IDA.

InterPro; IRR000407; GDAI_CD39_NTPASE.

PEam; PF01150; GDAI_CD39_NTPASE; I.

PROSITE; PS01238; GDAI_CD39_NTPASE; I.

Antigen; Calcium; Glycoprotein; Hydrolase; Magnesium; Transmembrane.

Cytoplasmic (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                also
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MEDLINE=98399871; PubMed=9730622;
Schoenborn M.A., Jenkins N.A., Copeland N.G., Gilbert D.J.,
Gayle R.B. III, Maliszewski C.R.;
"Gene structure and chromosome location of mouse Cd39 coding for an
                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=95015846; PubMed=7930580; Maliszewski C.R., Delespesse G.J.T., Schoenborn M.A., Armitage R.J. Fanalow W.C., Nakajima T., Baker B., Sutherland G.R., Poindexter K. Birks C., Alpert A., Friend D., Gimpel S.D., Gayle R.B. III; "The CD39 lymphoid cell activation antigen. Molecular cloning and structural characterization.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      other
                                                   01-NOV-1997 (Rel. 35, Created)
01-NOV-1997 (Rel. 35, Last sequence update)
05-JUL-2004 (Rel. 44, Last annotation update)
05-JUL-2004 (Rel. 44, Last annotation update)
Ectonucleoside triphosphate diphosphohydrolase 1 (EC 3.6.1.5)
(NTPDasel) (Ecto-ATP diphosphohydrolase) (ATPDase) (Lymphoid cell activation antigen) (Ecto-apyrase) (CD39 antigen).
Name=Entpdl; Synonyms=Cd39;
Mus musculus (Mouse).
                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;.
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
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-i- FUNCTION: In the nervous system, could hydrolyze ATP and othe nucleotides to regulate purinergic neurotransmission. Could a be implicated in the prevention of platelet aggregation. Hydrolyzes ATP and ADP equally well.

-i- CATALYTIC ACTIVITY: ATP + 2 H(2)0 = AMP + 2 phosphate.

-i- COPACTOR: Requires calcium and magnesium (By similarity).

-i- SUBGNIT: Homodimer; disulfide-linked (By similarity).

-i- SUBCELLULAR LOCATION: Integral membrane protein (Potential).
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      PRT;
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      STANDARD;
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MEDLINE=99279253; PubMed=10349636; DOI=10.1016/S0076-6879(99)03004-9;
Carninci P., Hayashizaki Y.;
"High-efficiency full-length cDNA cloning.";
                                                                                                                                                                                                              Gaps
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
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01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
01-0CT-2003 (TrEMBLrel. 25, Last annotation update)
Mus musculus adult male testis CDNA, RIKBN full-length enriched
11brary, clone:4921311C05 product:ectonucleoside triphosphate
diphosphohydrolase 1, full insert sequence.
                      (Potential)
                                                           (GlcNAc. . .) (Potential) (GlcNAc. . .) (Potential) (GlcNAc. . .) (Potential)
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STRAIN=CSTBL/63, TISSUE=Testis;
MEDLINE=21085660; PubMed=11217851; DOI=10.1038/35055500;
RIKEN FANTOM COMSOTELUM;
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4.5e-134;
(GlcNAc.
(GlcNAc.
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Meth. Enzymol. 303:19-44(1999).
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SCENDENCE FROM N.A.

STRAIN=CS7BL/6J; TISSUB=Testis;

Adachi J., Alzawa K., Akimura T., Hara A., Hashizume W.,

Fukuda S., Furuno M., Hanagaki T., Hara A., Hashizume W.,

Rutuda K., Hayatsu N., Hiramoto K., Hiraoka T., Hirozane T.,

Hayashida K., Hayatsu N., Hiramoto K., Hiraoka T., Hirozane T.,

A Hori F., Imorani K., Ishii Y., Itoh M., Kagawa I., Kasukwan T.,

A Hori F., Imorani K., Numazaki R., Ohno M., Ohsato N., Okazaki Y.,

A Katoh H., Kawai J., Kojima Y., Kadodo S., Konno H., Kouda M., Koya S.,

Katoh H., Kawai J., Kojima Y., Andodo S., Murata M., Nakamura M.,

Nishi K., Nomura K., Numazaki R., Ohno M., Ohsato N., Okazaki Y.,

A Saato R., Saitoh H., Sakai C., Sakai K., Sakazume N., Sano H.,

A Saato R., Saitoh H., Takaku-Akahira S., Takeda Y., Tagami M.,

A Tagawa A., Takahashi F., Takaku-Akahira S., Takeda Y., Tanaka T.,

Saato R., Saitoh I., Yasunishi A., Muramatsu M., Hayashizaki Y.,

Submitteed (JUL-2001) to the EMBL/GenBank/DDBJ databases.

EMBL; AK02912; BAC26486.1; -.

MGD; GO:0005605; C:basal lamina; IDA.

GO; GO:0005605; C:basal lamina; IDA.

GO; GO:000186; P:ATP catabolism; IDA.

GO; GO:000186; P:ATP catabolism; IDA.

GO; GO:000186; P:Parp catabolism; IDA.

GO; GO:000181; P:purine ribonucleoside diphosphate catabolism; IDA.

InterPro; IPR004407; GDAL_CD39_Mrma.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
STRAIN=C57BL/6J; TISSUE=Testis;
STRAIN=C57BL/6J; TISSUE=Testis;
STRAIN=C57BL/6J; TISSUE=Testis;
Shibata K., Itoh M., Aizawa K., Nagaoka S., Sasaki N., Carninci P., Shibata K., Itoh M., Aizawa T., Nakama T., Tashiro H., Itoh M., Sumi N., Ishii Y., Nakamura S., Hazama M., Nishine T., Harada A., Samamoto R., Matbunco H., Sakaguchi S., Ikegami T., Kashiwagi K., Fujiwake S., Inoue K., Togawa Y., Izawa M., Ohara E., Watshiki M., Yoneda Y., Ishikawa T., Ozawa K., Tanaka T., Matsuura S., Kawai J., Okazaki Y., Muramatsu M., Inoue Y., Kira A., Hayashizaki Y., Ranki M., Inoue Y., Kira A., Hayashizaki Y., Ranki M., Inoue Y., Kira A., Hayashizaki Y., Genome Res. 10:1757-1771 (2000).
                                                             STRAIN-C57BL/6J; IISBUE-Testis;
The RANTOM Consortium,
the RIKEN Genome Exploration Research Group Phase I & II Team;
the RIKEN Genome Exploration Research Group Phase I & II Team;
manalysis of the mouse transcriptome based on functional annotation of
60,770 full-length cDNAs.";
Nature 420:563-573(2002).
                                                                                                                                                                                                                                                                                                                                         Carninci P., Shibata Y., Hayatsu N., Sugahara Y., Shibata K., Itoh M., Konno H., Okazaki Y., Muramatsu M., Hayashizaki Y.; Shibata K., Itoh M., "Normalization and subtraction of cap-trapper-selected cDNAs to prepare full-length cDNA libraries for rapid discovery of new genes."; Genome Res. 10:1617-1630(2000).
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77.5%; Score 1835; DB 2; Length 539;
Best Local Similarity 76.4%; Pred. No. 4.8e-134;
Matches 337; Conservative 45; Mismatches 55; Indels
                                                                                                                                                                                                                                                                                               STRAIN=CS7BL/6J; TISSUB=Testis;
MEDLINE=20499374; PubMed=11042159; DOI=10.1101/gr.145100;
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Nature 409:685-690(2001)
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                                               SEQUENCE FROM N.A.
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SEQUENCE FROM N.A.

SEQUENCE FROM N.A.

SEQUENCE FROM N.A.

STRAIN=CZECH II; TISSUE=Mammary tumor;

MEDLINE=2238825; PubMed=1247932; DOI=10.1073/pnas.242603899;

A Straubberg R.D., Feingold R.A., Grouse L.H., Derge J.G.,

A Altschul S.F., Zeeberg B., Buerow K.H., Schaefer C.M., Schuler G.D.,

A Altschul S.F., Zeeberg B., Buerow K.H., Schaefer C.M., Schuler G.D.,

A Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

Bitchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

A Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,

Brownstein M.J., Usdin T.B., Tochiyuki S., Carninci P., Prange C.,

Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,

Brownstein M.J., Wokernan R.J., Malke J.A., Gunarane P.H.,

Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

A Villaton D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,

Richards S., Worley K.C., Hale S., Garcia A.M., Rodrigues S., Sanchez A.,

Rhiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,

Rhiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,

Rhiting M., Marra M.A.,

Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,

Rydriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,

Rydriguez A.C., Grimwood J., Schmutz J., Myers R.M., Schein J.E.,

Roderstion and initial analysis of more than 15,000 full-length human
306 LKDPCFNPGYEKVVNVSELYGTPCTKRFEKKLPFDQFRIQGTGDYEQCHQSILELFNNSH 365
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                366 CPYSQCAFNGVFLPPLHGSFGAFSAFYFWMDFFKKVAKNSVISQEKMTEITKNFCSKSWE
                                                                                                                                                                                                                                                                                                                                                                                                                                         CPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEK--VSQEKVTEMMKKFCAQPWE
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                                                                                                              185 STQVTFVPQNQTIESPDNALQPRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEI
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Strausberg R.; Submitted (JUL-2001) to the EMBL/GenBank/DDBJ databases. Submitted (JUL-2001) to the EMBL/GenBank/DDBJ databases. EMBL; BCO11278; AAH11278.1; - MGD; MGI:102805; Entpdl. MGD; MGI:102805; C.basal lamina; IDA. GO:0005605; C.basal lamina; IDA. GO:00016021; C:integral to membrane; TAS. GO; GO:0004050; P:apyrase activity; IDA.
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Last annotation update)
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Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002)
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QEKVTEMMKKFCAQPWEEIKTSYAGVKEKYLSEYCPSGTYILSLLLQGYHFTADSWEHIH 405
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          Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G., Blakesley R.W., Touchman J.W., Green B.D., Dickson M.C., Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S., Krzywinski M.I., Skalska U., Smailus D.E., Schnerch A., Schein J.E., Jones S.J., Marza M.A.; "Generation and infinal analysis of more than 15,000 full-length human and mouse cDNA sequences."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61 VPYETNNQETFGALDLGGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGK
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       166 VPYETINNQETFGALDLGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGK
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             106 MESEELADRVLDVVERSLSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSI
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Mammalia; Butheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
NCBI_TaxID=10116;
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16-OCT-2001 (Rel. 40, Last sequence update)
25-OCT-2004 (Rel. 45, Last annotation update)
Estornucleoside triphosphate diphosphohydrolase 1 (EC 3.6.1.5)
(NTPDasel) (Ecto-ATP diphosphohydrolase) (ATPDase) (Lymphoid cactivation antigen) (Ecto-apyrase) (CD39 antigen).
Rame=Entpd1; Synonyms=Cd39;
Rattus norvegicus (Rat).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 372;
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                                                                                                                                                                                                                                                                                                                                                                                              Strausberg R.; Submitted (MAR-2003) to the EMBL/GenBank/DDBJ databases. Submitted (MAR-2003) to the EMBL/GenBank/DDBJ databases. EMBL; EC047664; AAH47664.1; -.. GC014764; AAH47664.1; -.. ENDLY; IEA. InterPro; IPR000407; GDAl_CD39_NTPase. Fefan; PF01150; GDAl_CD39; 1. PROSITE; PS01238; GDAl_CD39 NTPASE; 1. SEQUENCE 372 AA; 42731 MW; ABBIDE1366356EB3 CRC64;
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STRAIN-Sprague-Dawley; TISSUE-Brain, and Hippocampus;
PubMed=9221928;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         406 FIGKIQGSDAGWTLGYMLNLTNMIPAEQPLSTPLSHST 443
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                                                                                                                                                                                                                                                           Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002)
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Brain Res. Mol. Brain Res. 47:295-302(1997)
[2]
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Best Local Similarity 100.2
Matches 338; Conservative
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TISSUE=Lung;
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                                               . .; IDA.
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Klausner R.D., Collins F.S., Wagner L., Shemmen C.M., Schuler G.D.,
Altschul S.F., Zeeberg B., Buetchew K.H., Schaefer C.F., Bhat N.K.,
Hopkins R.P., Jordan H., Moore T., Max S.I., Wang J., Heteh F.,
Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
Stapleron M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Parange C.,
Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
Bosak S.A., McZernan R.J., McKernan R.J., Malek J.A., Gunaratne P.H.,
Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
Villalon D.K., Muzziy D.M., Sodergren E.J., Lu X., Gibbs R.A.,
Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
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       GO:0006200; P:ATP catabolism; IDA.
GO:0007186; P:G-protein coupled receptor protein signalin. . .;
GO:0010168; P:platelet activation; IDA.
GO:0009181; P:purine ribonucleoside diphosphate catabolism; IDA.
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Catarrhini; Hominidae; Homo.
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MEDLINE-22388257; PubMed-12477932; DOI=10.1073/pnas.242603899;
                                                                                                                                                                                                                                                                                               510;
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                                                                                                                                                                                                                                                                                           Length
GO; GO:0006200; F: ...

GO; GO:0007186; P:G-protein coupled tectron; IDA.

GO; GO:0009181; P:platelet activation; IDA.

GO; GO:0009181; P:purion ribonucleoside diphosphate cat Pfam; PF01150; GDA! CD39; 1.

PROSITE; PS01238; GDA! CD39 NTPASE; 1.

PROSITE; PS01238; GDA! CD39 NTPASE; 1.
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Last annotation update)
                                                                                                                                                                                                                                                                                    77.3%; Score 1830; DB 2; 76.2%; Pred. No. 1.1e-133;
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01-MRR-2004 (TIEMBLE-1 26, La
ENTPD1 protein.
Homo sapiens (Human).
Eukaryota, Metazoa, Chordata;
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(TrEMBLrel. 24, I
(TrEMBLrel. 26, I
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NCBI_TaxID=9606;
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TISSUE-Aortic endothelium;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STANDARD;
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                    185
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SYPFDFOGAKIITGGEEGAYGWITINYLLGRFTQEQSWLNFIS-DSQKQATFGALDLGGS 216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              65 VNEIGIYLIDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLS 124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGA 184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    64
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              STRAIN=Whetar; TISSUE=Cochlea; MEDLINE=20050856; PubMed=10581401; DOI=10.1016/S0169-328X(99)00244-2; Vlajkovic S.M., Housley G.D., Greenwood D., Thorne P.R.; "Bridence for alternative splicing of ecto-Arpase associated with termination of purinergic transmission.";
                                                                                                                                                                                                                                                                  rat brain.";
Neuropharmacology 36:1189-1200(1997).

-I- FUNCTION: In the nervous system, could hydrolyze ATP and other
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                                                                                                                                                                             STRAIN=Sprague-Dawley; TISSUE=Brain; MEDINE=89031057; PubMed=9364474; DOI=10.16/50028-3908(97)00115-9; MEGPLINE=98031057; PubMed=9364474; DOI=10.1016/50028-3908(97)00115-9; Megel B., Braun N., Heine P., Maliszewski C.R., Zimmermann H.; "An ecto-ATPase and an ecto-ATP diphosphohydrolase are expressed in
                                                                                                                                                                                                                                                                                                                    nuclectides to regulate purinergic neurotransmission. Could also be implicated in the prevention of platelet aggregation. Hydrolyzes ATP and ADP equally well.

CATALYTIC ACTIVITY: ATP + 2 H(2)0 = AMP + 2 phosphate.

COFACTOR: Requires calcium and magnesium.

SUBGUIT: Homodalmer; disulfide-linked (By similarity).

SUBCELLULAR LOCATION: Integral membrane protein (Potential).

TISSUE SPECIFICITY: Expressed in primary neurons and astrocytes,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro; IPR000007; GDA1_CD39_NTPase.
Pfam; PF01150; GDA1_CD39; 1.
PR051TE; PS01238; GDA1_CD39, NTPASE; 1.
Antigen; Calcium; Glycoprofein; Hydrolase; Magnesium; Transmembrane.
DOMAIN 1 16 __Cytoplasmic (Potential).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SIMILARITY: Belongs to the GDA1 / CD39 NTPase family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Extracellular (Potential). Potential.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -> L (in Ref. 2).
4CC123D3E644C193 CRC64;
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PTM: N-glycosylated.
                                                                                                                     3rain Res. Mol. Brain Res. 73:85-92(1999)
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SEQUENCE FROM N.A
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                                           217 STQVTFVPLNQTLEAPETSLQFRLYGTDYTVYTHSFLCYGKDQALWQKLAQDIQVSSGGI
STOVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEI
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-1. FUNCTION: In the nervous system. could hydrolyze ATP and other nucleotides to regulate purinergic neurotransmission. Could also be implicated in the prevention of platelet aggregation. Hydrolyzes ATP and ADP equally well.

-1. CATALYTIC ACTIVITY: ATP + 2 H(2)O = AMP + 2 phosphate.

-1. COFACTOR: Requires calcium and magnesium (By similarity).

-1. SUBCELLULAR LOCATION: Integral membrane protein (Potential).

-1. TISSUE SPECIFICITY: Highest expression found in vascular endothelium, smooth muscle, spleen and lung.

-1. PTM: Cleaved into two polypeptides that seem to stay together by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Distribution, cloning, and characterization of porcine nucleoside triphosphate diphosphohydrolase-1."; Eur. J. Biochem. 267:4106-4114(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        16-OCT-2001 (Rel. 40, Last sequence update)
05-JUL-2004 (Rel. 44, Last annotation update)
Bctonucleoside triphosphate diphosphohydrolase 1 (BC 3.6.1.5)
(WTPDasel) (Ecto-ATP diphosphohydrolase) (ATPDase) (Lymphoid cell activation antigen) (Ecto-apyrase) (CD39 antigen).
Name=ENTPD1; Synonyms=CD39;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=20325090; PubMed=10866813;
Lemmens R., Vanduffel L., Kittel A., Beaudoin A.R., Benrezzak O.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi;
Mammalia, Eutheria, Cetartiodactyla, Suina, Suidae, Sus.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            noncovalent interactions.
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       (See http://www.isb-sib.ch/announce/
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                              EMBL; AJ133746; CAB95871.1; -.
InterPro; IPR000407; GDA1_CD39_NTPase.
Pfam; PF01150; GDA1_CD39; 1.
PROSITE; PS01238; GDA1_CD39_NTPASE; 1.
AAR119Gen; Calcium; Direct protein sequencing; Glycoprotein; Hydrolase; Magnesium; Transmembrane.
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                                                                                                                                                             Cytoplasmic (Potential).
N-linked (GlCNAc. .) (Potential).
N-linked (GlCNAc. .) (Potential).
N-linked (GlCNAc. .) (Potential).
N-linked (GlCNAc. .) (Potential).
N-linked (GlCNAc. .) (Potential).
N-linked (GlCNAc. .) (Potential).
N-linked (GlCNAc. .) (Potential).
N-linked (GlCNAc. .) (Potential).
G -> S (in Ref. 2).
                                                                                                                          54 kDa subunit
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and
                                                                                                                                                                                                                                                           Length 510;
                                                                                         diphosphohydrolase 1.
Ectonucleoside triphosphate
diphosphohydrolase 1 27 kDa
                                                                                                                Ectonucleoside triphosphate diphosphohydrolase 1 54 kDa
                                                                                                                                                                                                                                                                            64; Indels
                                                                                 Ectonucleoside triphosphate
                                                                                                                                                 Extracellular (Potential).
 Usage by
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                                                                                                                                  Cytoplasmic (Potential). Potential.
                                                                                                                                                                                                                                                     Score 1715; DB 1;
No. 9.6e-125;
modified and this statement is not removed.
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                                                                                                                                                                                                                                                                            63; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         513
         ities requires a license agreement (send an email to license@isb-sib.ch)
                                                                                                                                                          Potential.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ä
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TONKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PROSITE; PSO1238; GDA1_CD39_NTPASE; 1.
Antigen; Calcium; Direct protein sequencing; Glycoprotein; Hydrolase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    diphosphohydrolass.",

J. Biol. Chem. 271:33116-33122 (1996).

-I. FUNCTION: In the nervous system, could hydrolyze ATP and other nucleotides to regulate purinergic neurotransmission. Could also be implicated in the prevention of platelet aggregation. Hydrolyzes ATP and ADP equally well.

-I. CATALYTIC ACTIVITY: ATP + 2 H(2)0 = AMP + 2 phosphate.

-I. COPACTOR: Requires calcium and magnessium.

-I. SUBDUIT: Homodimer; disulfide-linked (By similarity).

-I. SUBCELLULAR LOCATION: Integral membrane protein (Potential).
                                                                                                  cell
                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
Bovinae; Bos
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Potential.

Extracellular (Potential).

Cytoplasmic (Potential).

N-linked (GlcNAc. .) (Potential).

N-linked (GlcNAc. .) (Potential).

N-linked (GlcNAc. .) (Potential).

N-linked (GlcNAc. .) (Potential).

N-linked (GlcNAc. .) (Potential).

N-linked (GlcNAc. .) (Potential).

N-linked (GlcNAc. .) (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE=97115858; PubMed=8955160; DOI=10.1074/jbc.271.51.33116; Racamarek E., Koziak K., Sevigny J., Slegel J.B., Anrather J., Beaudoin A.R., Bach F.H., Robson S.C.; Indentification and characterization of CD39/vascular ATP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5
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16-OCT-2001 (Rel. 40, Last sequence update)
05-UUL-2004 (Rel. 44, Last annotation update)
Ectonucleoside triphosphate diphosphohydrolase 1 (EC 3.6.1.5)
(MTPDasel) (Ecto-ATP diphosphohydrolase) (ATPDase) (Lymphoid activation antigen) (CD39 antigen) (Ecto-apyrase).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE OF 97-103; 123-133; 136-140; 145-168 AND 459-471.
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Chang A.S., Garcia R.L., Chang S.M., Schilling W.P.;
Submitted (MAY-1997) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          65; Indels
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INV -> CGF (in Ref. 2).
K -> V (in Ref. 2).
20FE98F27B6D2F96 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Cytoplasmic (Potential).
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Pred. No. 7.7e-123;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro; IPR000407; GDA1_CD39_NTPase.
Pfam; PF01150; GDA1_CD39; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         58113 MW;
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                                                                                                                                                               Name=BNTPD1; Synonyms=CD39;
Bos taurus (Bovine).
                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
TISSUE-Aortic endothelium;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
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Les 309; Conserv
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                                                                                                                                                                                                                                                                                                                               NCBI_TaxID=9913;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FISSUE=Aorta;
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                                                                                                                                                                                                                                                         LRDPCFHPGYKKVVNVSDLYKTPCTKRFEMT---LPFQQFEIQGIGNYQQCHQSILELFN 301
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
STRAIN=CS7BL/6J; TISSUB=Skin;
MEDLINE=20499374; PubMed=11042159; DOI=10.1101/gr.145100;
Carninci P., Shibata Y., Hayatsu N., Sugahara Y., Shibata K., Itoh M.,
Konno H., Okazaki Y., Muramatsu M., Hayashizaki Y.;
                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
STRAIN=CS7BL/6J; TISSUE=Skin;
MEDLINE=99279253; PubMed=10349636; DOI=10.1016/S0076-6879(99)03004-9;
Carninci P., Hayashizaki Y.;
"High-efficiency full-length cDNA cloning.";
Meth. Enzymol. 303:19-44(1999).
                                                                                                                                                                             STOVTFVPONOTIESPDNALOFRLYGKDYNVYTHSFLCYGKDOALWOKLAKDIQVASNEI
                                                                                                                                                                                                                                                                                                                                                                                                                WEELKTSYAGVKEKYLSEYCPSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLG
                  VNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Craniata, Vertebrata, Euteleostomi,
Sciurognathi, Muridae, Murinae, Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "Functional annotation of a full-length mouse cDNA collection."; Nature 409:685-690(2001).
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01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
Mus musculus 10 days neonate skin cDNA, RIKEN full-length enri
library, clohe:4732419M16 product:ectonucleoside triphosphate
diphosphohydrolase 1, full insert sequence. (Fragment).
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STRARIE-GS7BL/6J; TISSUE-SKin;
MEDILINE-21.085660; PLDMed=11217851; DOI=10.1038/35055500;
RIKEN FANTOM CONSORTIUM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (TrEMBLrel. 23, Created)
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Mammalia; Eutheria; Rodentia;
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Nature 420:563-573(2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRELIMINARY;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                356 FCAQPWEEIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDA 415
                                                                                                                                                                                                                                                                                                                                                                                   prepare full-langth cDNA libraries for rapper-selected cDNAs to prepare full-langth cDNA libraries for rapid discovery of new genes."; Genome Res. 10:1617-1630(2000).
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SEQUENCE FROM N.A.

SEQUENCE FROM N.A.

STRAIN=C57BL/60; TISSUE=Skin;

Shibata K., Itch M., Aizawa K., Nagaoka S., Sasaki N., Carninci P.,

A MEDLITHS=20530913; Pubmed=11076861; DOI=10.1101/gr.152600;

A Konno H., Akiyama J., Nishi K., Kitsunai T., Tashiro H., Itch M.,

A Numi N., Ishir Y., Nakamura S., Hazama M., Nishine T., Harada A.,

A Yamamoto R., Matsumoto H., Sakaguchi S., Ikegami T., Kashiwagi K.,

A Pujiwake S., Inoue K., Togawa Y., Izawa M., Ohara E., Watchiki M.,

A Okazaki Y., Muramateu M., Inoue Y., Kira A., Hayashizaki Y.;

"RIKEN integrated sequence analysis (RISA) system-384-format

sequencing pipeline with 384 multicapillary sequencer.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               66.5%; Score 1574; DB 2; 74.5%; Pred. No. 6.8e-114;
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Matches 289; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pfam; PF01150; GDA1
                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
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Straubberg R.L., Feingold E.A., Groues L.H., Derge J.G.,

Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,

Altschul S.F., Zeeberg B., Buetow K.H., Schafer C.F., Bhat N.K.,

Altschul S.F., Zeeberg B., Buetow K.H., Schafer C.F., Bhat N.K.,

Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hosieh F.,

Boatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

Brownstein M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,

Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,

Raba S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,

Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,

Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

Whiting M., Madan A., Young A.C., Bouffauge S., Sanchez A.,

Rachalez A.C., Grimwood J., Schmutz J., Myers R.M., Buterfield Y.S.,

Krzywinski M.I., Skalska U., Smailus D.E., Schnerch A., Schein J.E.,

Generation and initial analysis of more than 15,000 full-length human
                                                                                                                                                                                                  277 LDPCFNSGYRRNASTNDLYSSPCISKLRIPTAPSTLDIRGTGNYQLCKRNVQAIFNRTHC 336
                                                                                                                                                                                                                                                                                 218 TQITFESKRE-IESQENSLHFRLYGKSYDIYTHSFLCYGKDQALRLQIANSIKDATDSIL
                                         TOVTFVPQNQTIESPDNALOFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASNEIL
                                                                                                                                                               246 RDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPPQQFEIQGIGNYQQCHQSILELFNTSYC
                                                                                                                                                                                                                                                                                                                                                                                                             TSYAGVKEKYLSBYCPSGTYILSLLLQCYHFTADSWEHIHFIGKIQGSDAGWTLGYMLNL
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
Xenopodinae; Xenopus.
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Klein S.L., Strausberg R.L., Wagner L., Pontius J., Clifton S.W.,
Richardson P.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      'Genetic and genomic tools for Xenopus research: The NIH Xenopus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=22388257; Pubmed=12477932; DOI=10.1073/pnas.242603899;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Last sequence update)
Last annotation update)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TNMIPAEQPLSTPLSHS 442
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Klein S., Gerhard D.S.;
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Name=MGC80631;
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Transberg R.L., Peingold E.A., Grouse L.H., Derge J.G.,

Strausberg R.L., Peingold E.A., Grouse L.H., Derge J.G.,

Riausberg R.L., Peingold E.A., Grouse L.H., Derge J.G.,

Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,

Altschul S.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Schetz T.E.,

Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,

Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,

Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

Villalon D.K., Muzny D.M., Sodergren B.J., Lu X., Gibbs R.A.,

Fahey J., Helton E., Ketreman M., Madan A., Rodrigues S., Sanchez A.,

Mhiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,

Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,

Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,

Jones S.J., Marra M.A.,

Jones S.J., Marra M.A.,

T. "Generation and initial analysis of more than 15,000 full-length human
300 PCSKSWEETKTSYPSVKEKYLSEYCFSGAYILS-LLQCYNFTGSSWEQIHFMGKIKDSNA 358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               66 NEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSN 125
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Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
Xenopodinae; Xenopus.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Klein S., Gerhard D.S.;
Submitted (JUL-2004) to the EMBL/GenBank/DDBJ databases.
EMBL; BC076662; AAH76662.1; -.
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InterPro; IPR00407; GDA1 CD39_NTPase.
Pfam; PP01150; GDA1_CD39; 1.
PROSITE; PS01238; GDA1_CD39 NTPASE; 1.
SEQUENCE 508 AA; 57322 MW; 12CAEACOSBEABDEB CRC64;
                                                                                                                                                                                                                                                                                                                                                                       Created)
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                                                                                                                                                                                                                                                                                                                 508 AA
                                                                                                                                        GWTLGYMLNLTNMIPAEQPLSPPLPHST 386
                                                                                                  443
                                                                                               416 GWTLGYMLNLTNMIPAEQPLSTPLSHST
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TSHCPYSGCSFNGVFQPTVEGKFGAFSAFFFVMDFLNLKND--SLDKTKQRLAMYCSTPW 375
Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
Blakesley R.W., Touchman J.W., Green B.D., Dickson M.C.,
Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,
Krzywainski M.I., Skalaka U., Smailus D.E., Schnerch A., Schein J.E.,
Jones S.J., Marra M.A.;
"Generation and initial analysis of more than 15,000 full-length human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               261 AILLRDPCFHPGYNTTKTLESV-NTPCMKPLKM--PKEGFSHVGLGNWSQCQESIRKVFN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   6 ONKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQKV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            66 NEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERSLSN
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Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Bamanlia; Eutheria; Rodentia; Sciurognathi; Muridae; Musinge; Mus.
NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2; Length 492;
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05-JUL-2004 (TrEMBLrel. 27, Last annotation update)
Nucleoside triphosphate diphosphohydrolase-8 (EC 3.6.1.5)
                                                                                                                                                                                                                                                                                                           Director MCC Project;
Submitted (JUL-2004) to the EMBL/GenBank/DDBJ databases.
EMBL; BC078240; AAH78240.1; -.
                                                                                                                                                                                                                                                                                                                                                                          GO; GO:0016787; F:Bydrolase activity; IEA.
InterPro; IPR000407; GDAl_CD39_NTFase.
Pfam: PF01150; GDAl_CD39; 1.
PROSITE; PS01238; GDAl_CD39 NTPASE; 1.
SEQUENCE 492 AA; 55507 NW; B789AB6DFC6A032B CRC64;
                                                                                                                                                                                           and mouse cDNA sequences.";
Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     102;
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                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
STRAIN=Singapore local strain; TISSUE=Embryo;
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05-JUL-2004 (TrEMBLrel. 27, Last seq
05-JUL-2004 (TrEMBLrel. 27, Last ann
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Matches 251; Conservative
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STRAIN-Singapore local strain; TISSUE=Embryo;
Straubedry R.D.; Peingold E.A.; Grouse L.H.; Derge J.G.,
Strauberg R.D.; Collins F.A.; Grouse L.H.; Derge J.G.,
Altschul S.F.; Zeeberg B., Buetow K.H.; Schaefer C.F.; Bhat N.K.,
Hopkins R.F., Jordan H.; Moorer T., Max S.I.; Wang J., Hsieh F.,
Diatchenko L., Marusina K., Farmer A.A.; Rubin G.M.; Hong L.,
Stapleton M., Soares M.B.; Bonaldo M.F.; Casavant T.L.; Scheetz T.E.,
Brownstein M.J.; Usddin T.B.; Toshiyuki S., Carninci P., Prange C.,
Raha S.S.; Loquellano N.A.; Peters G.J., Abramson R.D.; Mullahy S.J.;
Bosak S.A.; McEwan P.J.; McKernan K.J.; Malek J.A.; Gunaratne P.H.;
Richards S., Worley K.C.; Hale S., Garcia A.M., Gay L.J.; Hulyk S.W.,
                                                                                                                                                                                                                                                                                                                    39 QNKPLPKNIKYGIVLDAGSSHTSVYIYEWPSEKENDIGVVQQINDCKVEGNGISSYGHEP
                                                                                                                                                                                                                                                                                                                                                                                                                 PPFDFQGARIITGQEEGAYGWITINYLLGNFIQDSGWFKXMP-NFKPTGFSGALDLGGAS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                126 YPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLGGAS
                                                                                                                                                                                                                                                                                          ONKAL PENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQKV
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Name-zgc:100819;
Brachydanio rerio (Zebrafish) (Danio rerio).
Bukachydanio rerio (Zebrafish) (Danio rerio).
Bukachydanio Metazoa, Chordata; Craniata; Vertebrata; Euteleostomi;
Bukaryota; Metazoa, Chordata; Craniata; Ostariophysi; Cypriniformes;
Cyprinidae; Danio.
                                                                                                                                                                                                                                                7
                                                                                                                                                                                                     Length 508;
                                                                                                                                                                                                59.9%; Score 1418; DB 2; Length 5
59.1%; Pred. No. 1.2e-101;
ive 72; Mismatches 105; Indels
              (JUN-2004) to the EMBL/GenBank/DDBJ databases
                                                                                                                            NTPASE; 1.
W; BD205818A06C523B CRC64;
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Last annotation update)
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                               EMBL, BC073267, AAH73267.1; -. GO, GO:0016787; F:hydrolase activity; InterPro; IPR000407; GDA1 CD39 NTPase. PF01150; GDA1 CD39, T. PROSITE; PS01238; GDA1 CD39 NTPASE; 1. SEQUENCE 508 AA; 57049 MW; BD20581
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                                                                                                                                                                                                                          al Similarity 59.1
259; Conservative
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Best Local
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Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
               STRAIN-C57BL/6; TISSUE-Liver;
Bigonnesse F., Levesque S.A., Kukulski F., Lecka J., Robson S.C.,
Brennandes M.J.G., Sevigny J.;
Submitted (MG-2003) to the EMBL/GenBank/DDBJ databases.
EMBL; AN364442; AA084519.1;
EMBL; AN364442; RA084519.1;
GO; GO:0004050; F:apyrase activity; IEA.
GO; GO:0016789; F:hydrolase activity; IEA.
InterPro; IPR000407; GDAL CD39. NTPase.
Pfam; PF01150; GDAL CD39; 1.
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MEDLINE=98298108; PubMed=9632655; DOI=10.1074/jbc.273.26.16043;
Nagy A.K., Knowles A.F., Nagami G.T.;
"Molecular cloning of the chicken oviduct ecto-ATP-
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                                                                                                                                                                                                                                                                                     44.2%; Score 1046; DB 2; Length 497; 47.9%; Pred. No. 9.5e-73; tive 75; Mismatches 131; Indels 2:
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16-007-2001 (Rel. 40, Created)
6-007-2001 (Rel. 40, Last sequence update)
05-JUL-2004 (Rel. 44, Last annotation update)
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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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Institution of the ecto-ATPase and ecto-apyrase in chicken glazard and stromach. Purification and N-terminal sequence of the glazard and stromach. Purification and N-terminal sequence of the glazard and stromach. Purification and N-terminal sequence of the stomach ecto-apyrase.";

J. Biol. Chem. 272:23645-23652(1997).

In Biol. Chem. 272:23645-23652(1997).

In Chem. 272:23645-23652(1997).

In Chem. 272:23645-23652(1997).

In Chem. 272:23645-23652(1997).

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MEDLINE=97442428; PubMed=9295305; DOI=10.1074/jbc.272.38.23645;
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1 -> G (in Ref. 1; AA Bequence)
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Biol. Chem. 273:16043-16049(1998)
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304 YCPYSOCAFNGIFLPPLOGDFGAFSAFYFVMKFLNLTSEKVSOEKVTEMMKKFCAQPWEE

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QVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQA---LWQKLAKDIQVASNE 243
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01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-DEC-2001 (TrEMBLrel. 24, Last sequence update)
01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
Ecto-ATP-diphosphohydrolase (EC 3.6.1.5).
Gallus gallus (Chicken).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi; Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE=21992040; PubMed=11985621;
Knowles A.F., Nagy A.K., Strobel R.S., Wu-Weis M.;
Knowles A.F., Nagy A.K., Strobel R.S., Wu-Weis M.;
Purification, characterization, cloning, and expression of the
chicken liver ecto-Arp-diphosphohydrolase.";
Eur. J. Biochem. 269:2373-2382(2002).
EMBL; AF426405; AAL25086.1; -.
GO; GO:00106787; F:hydrolase activity; IEA.
GO; GO:0016787; F:hydrolase activity; IEA.
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364 IKTSYAGVKEKYLSEYCFSGTYILSLLLOGYHFTADSWEHIHFIGKIQGSDAGWTLGYML
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(first entry)

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17-AUG-2000
The present sequence is the fusion protein construct, IgkappaLsolCD39.

This construct comprises of the leader peptide from human immunoglobulin of gkappa, linked to the soluble CD39 (solCD39) protein region by few residues derived from human interleukin 2 (hit2). SolCD39 has apyrase activity and is constructed by removing the N- and C-terminal transmembrane domains. It retains the capacity to metabolise ATP and ADP transmembrane domains. It retains the capacity to metabolise ATP and ADP transmembrane domains. It retains the ability to block and reverse ADP-induced platelet activation and recruitment, including platelet aggregation. Soluble CD39 polypeptides are useful for inhibiting anyocardial infarction, coronary artery disease or injury, embolism, atheroselerosis, peripheral vascular occlusion, precediampsia, platelet-associated ischaemic disorders including lung, coronary and cerebral schaemic disorders including coronary, peripheral and cerebral artery thrombosis, intracardiac and venous thrombosis, coronary embolism (PE) and transient ischaemic attack. Solubbe CD39 is also useful for preventing thrombus formation, reocclusion, recoclusion, stenosis or thrombus formation, occlusion, reocclusion, stenosis or
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FVQKVNEIGIYLIDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVE 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             21 APTSTQNKALPENVKYGIVLDAGSSHTSLYIXKWPAEKENDTGVVHQVEECRVKGPGISK 80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               141 RSLSNYPFDFGGARIITGGEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                  New soluble CD39 polypeptides having apyrase activity, useful for inhibiting angiogenesis and treating unstable angina, myocardial infarction, stroke, coronary artery disease or injury.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity 100.0%; Pred. No. 7.2e-234;
Matches 443; Conservative 0; Mismatches 0; Indels 0;
                                                                                                            Claim 6; Page 116-118; 122pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                         restenosis of blood vessels or stroke
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       WPI; 2000-339644/29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 463 AA;
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AAY70902 standard; protein; 463 AA.

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The present sequence is the protein encoded by IgkappalsolCD39 construct.
This is used for transient expression of soluble(sol)CD39 in recombinant
CC cells for determining enzymatic activity and platelet inhibitory activity
CC for each protein product. SolCD39 is used in the treatment of unstable
angina, myocardial infarction, stroke, coronary artery disease or injury,
atherosclerosis, peripheral vascular occlusion, preeclampsia, embolism,
platelet-associated ischaemic disorder including lung ischaemia, coronary
cischaemia and cerebral ischaemia, thrombotic disorder including coronary
artery thrombosis, cerebral artery thrombosis, intracardiac thrombosis,
peripheral artery thrombosis, venous thrombosis, thrombosis,
coagulopathy, deep venous thrombosis (bTV), pulmonary embolism (PB),
transient ischaemic attack. Soluble CD39 is also useful for preventing
thrombus formation or reformation, occlusion, reocclusion, stenosis or
crestenosis of blood vessels or stroke
                                                                                     unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; preeclampsia; embolism; platelet-associated ischaemic disorder; lung ischaemia; thrombotic; cerebral ischaemia; thrombotic disorder; lung ischaemia; thrombotic disorder; coronary artery thrombosis; peripheral artery thrombosis; coaquiopathy; deep venous thrombosis; peripheral artery thrombosis; coaquiopathy; deep venous thrombosis; pripheral artery thrombosis; restenosis; restenosis; antianginal; cardiant; cerebroprotective; antiarteriosclerotic; vasotropic; anticoaquiant; coronary ischaemia; vascular occlusion; IgkappaisolcD39 construct.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Inhibiting platelet activation and recruitment, useful for treating a mammal suffering from unstable angina, myocardial infarction, stroke, coronary artery disease or injury, comprises administering soluble CD39 polypeptides.
                                                               Soluble CD39; ADP-induced platelet activation; platelet aggregation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 2368; DB 3; Length 463; Pred. No. 7.2e-234;
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te= "Soluble portion of CD39"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "Igkappa leader sequence"
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/note= "Derived from solCD39"
Protein encoded by IgkappalsolCD39 construct.
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/note= "Derived from IL-2"
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(CORR ) CORNELL RES FOUND INC.
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99US-0149010P.
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/note=
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Best Local Similarity
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13-AUG-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo
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Gimpel SD;

Price VL,

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The present sequence is a fusion construct, comprising the N-terminal amino acids of mature human interleukin2 (IL2) and soluble CD39 (solCD39) region, that has apyrase activity. This results in high levels of solCD39 (solCD39) cexpression and activity in the transfected cells. Soluble CD39 is constructed by removing the N- and C-terminal transmembrane domains. It creains the apparative to metabolise ATP and ADP at relevant concentrations and the ability to block and reverse ADP-induced platelet activation and recruitment, including platelet aggregation. Soluble CD39 polypeptides or recruitment, including platelet aggregation. Soluble CD39 polypeptides or injury, atherosclerosis, peripheral vascular occlusion, preeclampsis, corinjury, atherosclerosis, peripheral vascular occlusion, preeclampsis, coronary and cerebral ischaemic dischaemic disorders including lung, coronary and cerebral artery thrombosis, intracardiac and venous thrombosis, coagulopathy, deep venous thrombosis (DVT), pulmonary embolism (PE) and transient ischaemic attack. Soluble CD39 is also useful for preventing thrombus formation or reformation, occlusion, reocclusion, stenosis or restenosis of blood vessels or stroke
                                                                                                                                                                                          New soluble CD39 polypeptides having apyrase activity, useful for inhibiting angiogenesis and treating unstable angina, myocardial infarction, stroke, coronary artery disease or injury.
                                                                                                                                                                                                                                                                                           6a; Page 95-97; 122pp; English.
                                                                          Gayle RB,
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                           (IMMA) IMMONEX
                                                                        Maliszewski CR,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Soluble CD39; solCD39; human; apyrase activity; platelet activation; unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; precclampsia; embolism; platelet-associated ischaemic disorder; thrombotic disorder; reocclusion;
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                                                                        FVQKVNEIGIYLTDCMBRAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVE
                                                                                                                                                                                                                                                                       RSLSNYPPDEQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALD
                                                                                                                                                                                                                                                                                                                                   LGGASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVA
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                                               1 APTSTONKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISK
                                                                                                                                        FVQKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVE
                                                                                                                                                                                                                                    RSLSNYPPDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALD
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  Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human soluble CD39 and IL2 N-terminus comprising fusion construct.
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  0; Indels
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/label= Mature_human_interleukin_2
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/note= "Human soluble CD39
0; Mismatches
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                                                                                                                                      SIQNKALPENVKYGIVLDAGSSHTSLYIYKMPAEKENDTGVVHQVEECRVKGPGISKFV
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                                                                                                             3 TSTONKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWE
                                                        .
0
99.4%; Score 2353; DB 3; Length 454; 99.8%; Pred. No. 2.4e-232; ive 1; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LNLTNMIPAEQPLSTPLSHST 443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local Similarity 99.8
Matches 440; Conservative
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Gaps

; 0

Indels

Score 2353; DB 3; Pred. No. 2.4e-232; 1; Mismatches 0;

99.4%;

Query Match
Best Local Similarity 99.8
Matches 440; Conservative

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Length 454;

182

LSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLG GASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASN 243 BILEDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNT

123

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183

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122 133

63 OKVNEIGIYLTDCMERAREVIPRSOHOETPVYLGATAGWRLLRMESEELADRVLDVVERS

74 OKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERS

TSTQNKALPENVKYGIVLDAGSSHTSLY1YKWPAEKENDTGVVHQVEECRVKGPGISKFV 14 SSTQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFV

73

242 253 302

193

313

EIKTSYAGVKEKYLSEYCESGTYILSLILQGYHFTADSWEHIHFIGKIQGSDAGWTLGYM 422

363 374

LNLTNMIPAEOPLSTPLSHST 443 LNLTNMIPAEQPLSTPLSHST 454

434 423

g

AAY70924 standard; protein; 473 AA.

AAY7092 RESULT

AAY70924;

303 SYCPYSQCAPNGIFLPPLQGDFGAFSAFYFVMKFLNIJSEKVSQEKVTEMMKKFCAQPWE

254 EILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNT

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                                                                                                     Soluble CD39; ADP-induced platelet activation; platelet aggregation; unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; preclampsia; embolism; platelet-associated ischaemic disorder; lung ischaemia; thrombolic; cerebral ischaemia; thrombolic disorder; coronary artery thrombosis; cerebral artery thrombosis; intracardiac thrombosis; vanous thrombosis; peripheral artery thrombosis; cargllopathy; deep venous thrombosis; DVT; PS; pulmonary embolism; transfent ischaemic attack; thrombus formation; occlusion; stenosis; restenosis; antianginal; cardiant; cerebroprotective; antiarteriosclerotic; vasotropic; anticoagulant;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Inhibiting platelet activation and recruitment, useful for treating a mammal suffering from unstable angina, myocardial infarction, stroke, coronary artery disease or injury, comprises administering soluble CD39 polypeptides.
                                                                                Protein encoded by fusion construct of human soluble CD39 cDNA-1.
                                                                                                                                                                                                                                                                                                                                               16. .454
/note= "Human soluble CD39 protein"

    .15
    /label= Mature human_interleukin_2
    /note= "N-terminal region"

                                                                                                                                                                                                                                  coronary ischaemia; vascular occlusion.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Maliszewski CR, Gayle RB, Marcus AJ;
                                                                                                                                                                                                                                                                                              Location/Qualifiers
          AAY70890 standard; protein; 454 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CORNELL RES. FOUND INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        98US-0107466P.
99US-0149010P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                           98US-0104585P.
                                                                                                                                                                                                                                                                                                                                                                                                                                    99WO-US023641
                                                           (first entry)
                                                                                                                                                                                                                                                                                                                                              .454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (IMMV ) IMMUNEX CORP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 2000-339518/29.
N-PSDB; AAD00201.
                                                                                                                                                                                                                                                                                                                                                                                  WO200023094-A2
                                                                                                                                                                                                                                                             sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                    13-OCT-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                            16-OCT-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        06-NOV-1998;
13-AUG-1999;
                                                           17-AUG-2000
                                                                                                                                                                                                                                                                                                                                                                                                            27-APR-2000.
                                                                                                                                                                                                                                                                         Synthetic
                                    AAY70890;
                                                                                                                                                                                                                                                                                                             Protein
                                                                                                                                                                                                                                                                                                                                                Protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CORR
                                                                                                                                                                                                                                                             Homo
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Soluble CD39; solCD39; human; apyrase activity; platelet activation; unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; preeclampsia; embolism; platelet-associated ischaemic disorder; thrombotic disorder; reocclusion; cogqulopathy; deep venous thrombotis; pulmonary embolism; PE; thrombus formation; occlusion; stenosis; restenosis; angiogenesis; antiamginal; cerebroprotective; antiarteriosclerotic; anticoaqulant; cardiant; vasotropic; thrombolytic; inhibitor; interleukin 2; IL2.
                                                                                                                                                                                                                                                                                                               1. .24
/labbl= Leader peptide
/note= "Derived from human interleukin 2 (hIL2)"
                                                                                                                                                                                                                                                                                                                                                       26. .27
/note= "Cleavage site of leader sequence"
                                                                                Human soluble CD39 fusion protein construct, pIL2LTrim4.
                                                                                                                                                                                                                                                                                                                                                                                     35. .473
/note= "Human soluble CD39 protein"
                                                                                                                                                                                                                                                                                                Location/Qualifiers
                                                     17-AUG-2000 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                    WO200023459-A1
                                                                                                                                                                                                                                                                                                                                                            Cleavage-site
                                                                                                                                                                                                                                                        sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                27-APR-2000.
                                                                                                                                                                                                                                                                     Synthetic
                                                                                                                                                                                                                                                                                                   Key
Peptide
                                                                                                                                                                                                                                                                                                                                                                                         Protein
                                                                                                                                                                                                                                                        Homo
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The present sequence is the protein enocoded by a fusion construct of sol(soluble)CD39 having apyrase activity. Fusion of 12 amino acids from sol(soluble)CD39 having apyrase activity. Fusion of 12 amino acids from the soluble by the supernature of the soluble construction is took expression and activity in the supernatants of transfected cells. This is used in the treatment of unstable angina, myocardial infarction, stroke, coronary artery disease or injury, atherosclerosis, peripheral vasual arcordular occlusion, preeclampsia, embolism, platelet-associated ischaemia disorder including lung ischaemia, coronary ischaemia and cerebral ischaemia, thrombosis, intracardiac thrombosis, peripheral artery thrombosis, thrombosis, thrombosis, peripheral artery thrombosis, thrombosis, thrombosis, coagulopathy, deep venous thrombosis, thrombosis, coagulopathy, deep venous thrombosis (DVT), pulmonary embolism (PB), trambus formation or reformation, occlusion, recclusion, stenosis or thrombus formation or reformation, occlusion, recclusion, stenosis or restenosis of blood vessels or stroke

Sequence 454 AA

Claim 6; Page 95-97; 118pp; English.

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The present sequence is the fusion protein construct, pIL2LTrim4. This construct comprises of the leader peptide from human interleukin 2 (hIL2) and soluble (D19) (sol1D39) protein region, having apprase activity.
Soluble CD19 is constructed by removing the N- and C-terminal
transmembrane domains. It retains the capacity to metabolise ATP and ADP at relevant concentrations and the ability to block and reverse ADP-
induced platelet activation and recruitment, including platelet aggregation. Soluble CD19 polypeptides are useful for inhibiting anyocardial infarction, coronary artery disease or injury, embolism, atherosclerosis, peripheral vascular occlusion, precelampsia, platelet associated ischaemic disorders including lung, coronary and cerebral archy thrombotic disorders including coronary, peripheral and cerebral artery thrombotic disorders including coronary, peripheral and cerebral artery thrombosis, intracardiac and venous thrombosis, coagulopathy, deep venous thrombosis (DVI), pulmonary embolism (PE) and translent ischaemic attack. Soluble CD19 is also useful for preventing thrombus formation or reformation, occlusion, reocclusion, stenosis or restenosis of blood vessels or stroke
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERS 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LSNYPPDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLG 182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             153 LSNYPPDFOGARIITGOEEGAYGWITINYLLGKFSOKTRWFSIVPYETNNOETFGALDLG 212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASN 242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  213 GASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASN 272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNT 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNT 332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWE 362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYM 422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIOGSDAGWTLGYM 452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SYCPYSQCAFNGIFLPPLOGDFGAFSAFYFVMKFLNLTSEKVSQBKVTEMMKKFCAQPWE 392
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          62
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3 TSTONKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QKVNEIGIYLTDCMERAREVIPRSQHOETPVYLGATAGMRLLRMESEELADRVLDVVERS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                   New soluble CD39 polypeptides having apyrase activity, useful for
inhibiting angiogenesis and treating unstable angina, myocardial
infarction, stroke, coronary artery disease or injury.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             99.4%; Score 2353; DB 3; Length 473; 99.8%; Pred. No. 2.6e-232; ive 1; Mismatches 0; Indels
                                                                                                                                                Gimpel
                                                                                                                                                Price VL,
                                                                                                                                                                                                                                                                                                Claim 6; Page 114-116; 122pp; English
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                                  98US-0104585P.
98US-0107466P.
99US-0149010P.
99WO-US022955
                                                                                                                                              Maliszewski CR, Gayle RB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     440; Conservative
                                                                                                       (IMMV ) IMMUNEX CORP.
                                                                                                                                                                                WPI; 2000-339644/29.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 473 AA;
13-OCT-1999;
                                                       06-NOV-1998;
                                                                         13-AUG-1999;
                                    16-OCT-1998;
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Soluble CD39; ADP-induced platelet activation; platelet aggregation; unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; preeclampsia; embolism; platelet-associated ischaemia occlusion; preeclampsia; embolism; cerebral ischaemia; thrombotic disorder; lung ischaemia; thrombosis; cerebral artery thrombosis; intracardiac thrombosis; thrombosis; peripheral artery thrombosis; cogulopath; deep venous thrombosis; peripheral artery thrombosis; cogulopath; deep venous thrombosis; PDF; pulmonary embolism; transient ischaemic attack; thrombus formation; PS; pulmonary embolism; testenosis; antianginal; cardiant; cerebroprotective; antiateriosclerotic; vasotropic; anticoagulant; coronary ischaemia; vascular occlusion; pLL2Trim4 variant.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Protein encoded by Trim 4 construct.
                                                                                                                                                                                                                                   Ź
453 LNLTNMIPAEQPLSTPLSHST 473
                                                                                                                                                                                                                         AAY70901 standard; protein; 473
                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                 17-AUG-2000
                                                                                                                                                                                                                                                                                                                     AAY70901;
                                                                                                                                       RESULT 6
                                                                                                                                                                                       AAY70901
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/note= "Soluble portion of CD39" .473 WO200023094-A2. Cleavage-site 27-APR-2000 Protein

Location/Qualifiers

Homo sapiens.

Synthetic.

99WO-US023641. 98US-0104585P. 98US-0107466P. 99US-0149010P. 13-OCT-1999; 16-OCT-1998; 06-NOV-1998; 13-AUG-1999;

Marcus AJ; Gayle RB, Maliszewski CR,

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(IMMV) IMMUNEX CORP. (CORR) CORNELL RES FOUND INC.

WPI; 2000-339518/29.

Inhibiting platelet activation and recruitment, useful for treating a mammal suffering from unstable angina, myocardial infarction, stroke, coronary artery disease or injury, comprises administering soluble CD39 polypeptides.

Example 11; Page 114-116; 118pp; English.

The present sequence is the protein encoded by Trim4 construct. pIL2Trim4 variant was constructed by removing the human IL2 residues from solCD39 tells on construct. Fusion of 12 amino acids from the N-terminus of mature human IL2 to the solCD39 coding region results in high levels of both expression and activity in the supernatants of transfected cells. SolCD39 is used in the treatment of unstable angina, myocardial infarction.

CC stroke, coronary artery disease or injury, atheorosclerosis, peripheral vascular occlusion, preeclampsia, embolism, platelet-associated ischaemic cischaemia, a thrombosis, coronary ischaemia and cerebral coronary artery thrombosis, cerebral artery thrombosis, intracardiac thrombosis, peripheral artery thrombosis, venous thrombosis, thrombosis, cosquiopathy, deep venous thrombosis, thrombosis, cosquiopathy, deep venous chrombosis, cosquiopathy, deep venous companient is also useful for preventing thrombus formation or reformation, occlusion, reocclusion, stenosis or restenosis of blood vessels or stroke

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27-APR-2000
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                                                                                                                                                                                   242
                                                                                                                                                                                              SYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWE 392
                                                                                                                                                                                                                                                                                                    422
                                                                                                        QKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERS 122
                                                                                                                  LSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLG 182
                                                                                                                                                                                                                         EILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNT 302
                                                                                                                                                                                                                                           EILKDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNT 332
                                                                 62
                                                                                    92
                                                                                                                                                        LSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLG
                                                                                                                                                                                    GASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASN
                                                                                                                                                                                                                                                               SYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWE
                                                                                   SSTONKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFV
                                                                                                                                                                                                                                                                                                    EIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYM
                                                                  TSTONKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFV
                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1. .24
/label= Leader_peptide
/note= "Derived from human interleukin 2 (hIL2)"
                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             14. .25
'note= "Cleavage site of leader sequence"
                                              0; Indels
                             Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human soluble CD39 fusion protein construct, pIL2LTrim3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note= "Human soluble CD39 protein"
                           Score 2353; DB 3;
Pred. No. 2.6e-232;
1; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          location/Qualifiers
                                                                                                                                                                                                                                                                                                                                           LNLTNMIPAEQPLSTPLSHST 443
                                                                                                                                                                                                                                                                                                                                                      AAY70923 standard; protein; 474 AA
                            99.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 474
                                               Conservative
                                     Local Similarity
les 440; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WO200023459-A1
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Synthetic.
           Sequence 473
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                                                                                                                                                                                                      213
                            Query Match
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Peptide
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The present sequence is the fusion protein construct, pIL2LTrim3. This construct comprises of the leader peptide from human interleakin 2 (hIL2) and soluble CD39 (solD39) protein region, having apyrase activity.

Cand soluble CD39 is constructed by removing the N- and C-terminal treatwant concentrations and the ability to block and reverse ADP- induced platelet activation and recruitment, including platelet apgregation. Soluble CD39 polypeptides are useful for inhibiting congressis It is useful for the treatment of unstable anglia, stroke, mycardial infarction, coronary artery disease or injury, embolism, aberosclerosis, peripheral vascular occlusion, precelampsia, platelet-seneoral ciscament disorders including lung, coronary and cerebral artery thrombotic disorders including coronary, peripheral and cerebral artery thrombotic disorders including coronary embolism (PE) and cerebral artery thrombosis, intracardiac and venous thrombosis, coagulopathy, deep venous thrombosis (DVT), pulmonary embolism (PE) and transient ischaemic attack. Soluble CD39 is also useful for preventing thrombus formation or reformation, recoclusion, recoclusion, stenosis or restenosis of blood vessels or stroke
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNT 302
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    93
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3 ISTONKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFV
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                                                                                                                                                                                                                                                                                                                                                                                                     New soluble CD39 polypeptides having apyrase activity, useful for inhibiting angiogenesis and treating unstable angina, myocardial infarction, stroke, coronary artery disease or injury.
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                                                                                                                                                                                                                                                                      Gimpel SD
                                                                                                                                                                                                                                                                      Price VL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 6; Page 113-114; 122pp; English.
                                                        98US-0104585P.
98US-0107466P.
99US-0149010P.
                                                                                                                                                                                                                                                                         RB,
                                                                                                                                                                                                                                                                         Gayle
                                                                                                                                                                                                      (IMMV ) IMMUNEX CORP
                                                                                                                                                                                                                                                                                                                                         WPI; 2000-339644/29.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 474 AA;
                                                                                                                                                                                                                                                                      Maliszewski CR,
                                                                                               06-NOV-1998;
13-AUG-1999;
13-OCT-1999;
                                                                   16-0CT-1998
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The present sequence is the protein encoded by Trim3 construct. pIL2Trim3 variant was constructed by removing the human IL2 residues from solCD39 fusion construct. Pusion of 12 amino acids from the N-terminus of mature human IL2 to the solCD39 coding region results in high levels of mature expression and activity in the supernatants of transfected cells. SolCD39 is used in the treatment of unstable angina, myocardial infarction, errore, coronary artery disease or injury, atherosclerosis, peripheral vascular occlusion, preclampsia, embolism, platelet-associated ischaemic disorder including lung ischaemia, coronary ischaemia and cerebral ischaemia, a thrombosis, intracardiac thrombosis, peripheral artery thrombosis, intracardiac thrombosis, peripheral artery thrombosis, venous thrombosis, coaquilopathy, deep venous thrombosis (DE), transient ischaemic attack. Soluble CD39 is also useful for preventing thrombus formation or
                                                                                                                                                                                                                                                                                              unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; preeclampsia; embolism; platelete-associated isofhaemic disorder; lung ischaemia; thrombolytic; cerebral ischaemia; thrombosis; coronary artery thrombosis; peripheral artery thrombosis; intracardiac thrombosis; venous thrombosis; peripheral artery thrombosis; coagulopathy; deep venous thrombosis; DVT; PS; pulmonary embolism; transfent ischaemia atters; thrombosis; DVT; escilusion; reocclusion; stenosis; restenosis; antianginal; cardiant; cerebroprotective; antiarteriosclerotic; vasotropic; anticoagulant; coronary ischaemia; vascular occlusion; pll2Trim3 variant.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            mammal suffering from unstable angina, myocardial infarction, stroke, coronary artery disease or injury, comprises administering soluble CD39 polypeptides.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Inhibiting platelet activation and recruitment, useful for treating a
                                                                                                                                                                                                                                                                                Soluble CD39; ADP-induced platelet activation; platelet aggregation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /note= "Soluble portion of CD39"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Example 11; Page 113-114; 118pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Maliszewski CR, Gayle RB, Marcus AJ;
                                                                                                                                                                                                                                             Protein encoded by Trim 3 construct.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
 443
                                                                                                                               AAY70900 standard; protein; 474 AA
                   454 LNLTNMIPAEQPLSTPLSHST 474
LNLTNMI PAEOPLSTPLSHST
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98US-0107466P.
99US-0149010P.
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(CORR ) CORNELL RES FOUND INC.
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                                                                                                                                                                                                       17-AUG-2000
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06-NOV-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Synthetic.
423
                                                                                                                                                                  AAY70900;
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                                                                                                                                                                  122
                                                                                                                                                                                LSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLG 182
                                                                                                                                                                                                                                             213
                                                                                                                                                                                                                                                                      GASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASN 242
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                                                                                                                                                                                                                                                                                                                                                                                                   SYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWE 393
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                                                                                                                             34 SSTQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFV
                                                                                                                                                                   OKVNEIGIYLTDCMERAREVIPRSOHOETPVYLGATAGMRLLRMESEELADRVLDVVERS
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reformation, occlusion, reocclusion, stenosis or restenosis of blood vessels or stroke
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                                                             Length 474;
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/note= "Cleavage site of leader sequence"
                                                                                       Indels
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/note= "Human CD39-L4 protein N-terminal
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/note= "Human soluble CD39 protein"
                                                            Score 2353; DB 3;
Pred. No. 2.6e-232;
1; Mismatches 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                443
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                                                             99.4%;
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                                                                                       Matches 440; Conservative
                                                                          Similarity
                                     Sequence 474 AA;
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the human CD39-14 N-terminal region and soluble CD39 protein. CD39-14 is a secreted apyrase, belonging to the CD39 family. Soluble CD39-14 is a secreted apyrase, belonging to the CD39 family. Soluble CD39 is constructed by removing the N- and C-terminal transmembrane domains. It retains the capacity to metabolise ATP and ADP at relevant concentrations and the ability to block and reverse ADP-induced platelet activation and recruitment, including platelet aggregation. Soluble CD39 polypeptides are useful for inhibiting amgiogenesis. It is useful for the treatment of unstable angina, myocardial infarction, stroke, coronary artery disease or injury, atherosclerosis, peripheral vascular occlusion, preeclampsia, embolism, platelet-associated ischaemic disorders including coronary, peripheral and cerebral artery thrombosis, intracardiac and venous thrombosis, coagulopathy, deep venous thrombosis (DVT), pulmonary tembolism (PE) and transient ischaemic attack. Soluble CD39 is also useful for preventing thrombus formation or reformation, occlusion, reocclusion, stenosis or restenosis of blood vessels or stroke
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           present sequence is a fusion protein construct CD39-L4-1, comprising human CD39-L4 N-terminal region and soluble CD39 protein. CD39-L4 is
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                                                                                                                                                                                                                                                                                            Gimpel SD;
                                                                                                                                                                                                                                                                                            Price VL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 6; Page 89-91; 122pp; English
                                                                                                            98US-0104585P.
98US-0107466P.
99US-0149010P.
                                                 99WO-US022955
                                                                                                                                                                                                                                                                                            Maliszewski CR, Gayle RB,
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                                                                                                                                                                                                                                    (IMMV ) IMMUNEX CORP.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 476 AA;
                                                       13-OCT-1999;
                                                                                                               16-OCT-1998;
06-NOV-1998;
                                                                                                                                                                         13-AUG-1999;
27-APR-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               363
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The present sequence is a fusion construct of human soluble CD39 encoded by CD39-L4-1 construct. CD39-L4 is a secreted apyrase belonging to the CD39 family. The fusion construct is used for the expression and activity of soluble CD39 in CHO (chinese hamster ovary) cells. Soluble CD39 retains the capacity of wildtype CD39 to metabolise ATP and ADP at physiologically relevant concentrations as well as the ability to block and reverse ADP-induced platelet activation and recruitment including platelet aggregation. This is used in the treatment of unstable angina, myocardial infarction, stroke, coronary artery disease or injury, patherosclerosis, peripheral vascular occlusion, precclampsia, embolism, platelet-associated ischaemia disorder including lung ischaemia, coronary ischaemia and cerebral ischaemia, thrombotic disorder including coronary
                                                                                                                                                                                                                                                                               unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; preclampsia; embolism; platelet-associated ischaemic disorder; lung ischaemia; thrombolytic; cerbral ischaemia; thrombotic disorder; coronary artery thrombosis; intracardiac thrombosis, venous thrombosis; peripheral artery thrombosis; coagulopathy; deep venous thrombosis; ps. pulmonary embolism; transient ischaemic attack; thrombus formation; occlusion; stenosis; restenosis; antianial; cardiant; cerebroprotective; antiateriosclerotic; vasotropic; anticoagulant; coronary ischaemia; vascular occlusion.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Inhibiting platelet activation and recruitment, useful for treating a mammal suffering from unstable angina, myocardial infarction, stroke, coronary artery disease or injury, comprises administering soluble CD39 polypeptides.
                                                                                                                                                                                                                                                                        Soluble CD39; ADP-induced platelet activation; platelet aggregation;

    476
    note= "Soluble portion of CD39"

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/note= "Derived from CD39-L4"
                                                                                                                                                                                                                                      Protein encoded by CD39-L4-1 construct.
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LNLTNMIPAEQPLSTPLSHST 443
                  456 LNLTNMIPARQPLSTPLSHST 476
                                                                                                                            AAY70888 standard; protein; 476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (IMMV ) IMMUNEX CORP.
(CORR ) CORNELL RES FOUND INC.
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                                                                                                                                                                                                  (first entry)
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13-AUG-1999;
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 423
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Soluble CD39; solCD39; human; apyrase activity; platelet activation; unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; preclampsia; embolism; platelet-associated ischaemic disorder; thrombotic disorder; reocclusion; coagulopathy; deep venous thrombosis; DVT; pulmonary embolism; PB; thrombus formation; occlusion; stenosis; restenosis; anglogenesis; antianginal; cerebroprotective; antiatreriosclerotic; anticoagulant; cardiant; vasotropic; thrombolytic; inhibitor; interleukin 2; IL2.
                                                                                                                                                                                                QKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERS 122
                                                                                                                                                                                                                                             LSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLG 182
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                                                                                                                                                                                                                                                                                                                                     EILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNT 302
                                                                                                                                                                                                                                                                                                                                                             EILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNT 335
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                                                                                                                                                                                                                                                                                                                                                                                                      SYCPYSQCAFNGI FLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWE 395
                                                                                                                                                                                                                                                                                                                                                                                                                               EIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYM 422
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artery thrombosis, cerebral artery thrombosis, intracardiac thrombosis, peripheral artery thrombosis, venous thrombosis, thrombosis, coagulopathy, deep venous thrombosis (DVT), pulmonary embolism (PB), transient ischaemic attack. Soluble CD39 is also useful for preventing thrombus formation or reformation, occlusion, reocclusion, stenosis or restenosis of blood vessels or stroke
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                                                                                                                                                                 SSTQNKALPENVXYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFV
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                                                                                                                               Gaps

    1. .24
    /label= Leader peptide
    /note= "Derived from human interleukin 2 (hIL2)"
    25. .36

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                                                                                                       Length 476;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human soluble CD39 fusion protein construct, pIL2LsolCD39.
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                                                                                                      Score 2353; DB 3;
Pred. No. 2.6e-232;
1; Mismatches 0;
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                                                                                                      99.4%;
99.8%;
                                                                                                                             Matches 440; Conservative
                                                                                                       Query Match
Best Local Similarity
                                                                                Sequence 476 AA;
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The present sequence is a fusion construct pIL2LsolCD39, comprising the leader peptide of human interleukin 2 (HIL2), 12 amino acids from the mature N-terminus of HIL2 and soluble CD39 (solCD39) coding region, coding region, having apyrase activity. His produces high levels of solCD39 expression and activity in the transfected cells. Soluble CD39 is constructed by capacity to metabolise ATP and ADP at relevant concentrations and the ability to block and reverse ADP-induced platelet activation and recurrent, including platelet aggregation. Soluble CD39 polypeptides recruitment, including platelet aggregation. Soluble CD39 polypeptides recruitment, including platelet aggregation, soluble CD39 polypeptides recruitment, including platelet aggregation, soluble CD39 polypeptides unstable angina, myocardial infarction, stroke, coronary artery disease or injury, atherosclerosis, peripheral vascular occlusion, precelampsia, coronary and cerebral ischaemia, thrombotic disorders including lung, coronary and cerebral artery thrombosis, intracardiac and venous thrombosis, coagulopathy, deep venous thrombosis (DYT), pulmonary embolism (PB) and transient ischaemic attack. Soluble CD39 is also useful for preventing thrombus formation or reformation, occlusion, reocclusion, stenosis or restenosis of blood vessels or stroke
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        New soluble CD39 polypeptides having apyrase activity, useful for inhibiting angiogenesis and treating unstable angina, myocardial
/label= Mature human_interleukin_2
/note= "Derived from"N-terminal end of human IL2"
37. .39
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   infarction, stroke, coronary artery disease or injury
                                                                                                                             40. .478
/note= "Human soluble CD39 protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 2353; DB 3;
Pred. No. 2.6e-232;
1; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gimpel SD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Disclosure, Page 99-101; 122pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Price VL,
                                                                                            /note= "Linker"
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98US-0107466P.
99US-0149010P.
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                                                                                                                                                                                                                                                                                                                                                      99WO-US022955
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gayle RB,
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nes 440; Conserv
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Disclosure; Page 99-101; 118pp; English.
                                                                                                                                                                                  Sequence 478 AA;
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                             362
                                                                  EIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYM 422
                                                                            Soluble CD39; ADP-induced platelet activation; platelet aggregation; unstable angina; myocardial infarction; stroke; coronary artery disease; atherosclerosis; peripheral vascular occlusion; precelampsia; embolism; platelet-associated ischaemia disorder; lung ischaemia; thrombolytic; cerebral ischaemia; thrombotic disorder; coronary artery thrombosis; cerebral artery thrombosis; intracardiac thrombosis; arenus thrombosis; peripheral artery thrombosis; coagulopathy; deep venous thrombosis; PE; pulmonary embolism; transient ischaemic attack; thrombosis; DVT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Inhibiting platelet activation and recruitment, useful for treating a mammal suffering from unstable angina, myocardial infarction, stroke, coronary artery disease or injury, comprises administering soluble CD39 polypeptides.
SYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWE
                                         SYCPYSOCAFING IF I PPLOGD FGAFSAFYFVMKFLNLTSEKVSOEKVTEMMKKFCAOPWE
                                                                                                                                                                                                                                                                                                                           occlusion; reocclusion; stenosis; restenosis; antianginal; cardiant; cerebroprotective; antiarteriosclerotic; vasotropic; anticoagulant; coronary ischaemia; vascular occlusion.
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/note= "huIL2 leader sequence"
                                                                                                                                                                                                                                                                                                                                                                                                                                 "Mature human IL2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note= "SolCD39 protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Marcus AJ;
                                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
                                                                                                        443
                                                                                                                                                                       AAY70891 standard; protein; 478 AA
                                                                                                                                                                                                                                Protein encoded by pIL2Lsol CD39.
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                                                                                                                  LILLINMIPAEQPLSTPLSHST
                                                                                                        LNLTNMI PAEQPLSTPLSHST
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99US-0149010P.
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/note= "T
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Synthetic.
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The present sequence is protein encoded by the coding region of pil2SolCD39, a funion construct encoding sol(soluble) CD39 having apyrase activity. Fusion of 12 amino acids from the N-terminus of mature human L12 to the solCD39 coding region results in high levels of both expression and activity in the supernatants of transfected cells. This is called in the treatment of unstable angina, myocardial infarction, stroke, coronary artery disease or injury, atherosclerosis, peripheral vascular collusion, preeclampsia, embolism, platelet-associated ischaemic disorder including lung ischaemia, coronary artery thrombosis, cerebral artery thrombosis, intracardiac thrombosis, peripheral artery thrombosis, intracardiac thrombosis, peripheral artery thrombosis, thrombosis, coagulopathy, deep venous thrombosis, (DVT), pulmonary embolism (ES), transient ischaemic attack. Soluble CD39 is also useful for preventing thrombus formation or reformation, occlusion, custoke
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       182
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Soluble CD39; solCD39; human; apyrase activity; platelet activation; unstable angina; myocardial infarction; stroke; ocronary artery disease; atherosclerosis; peripheral vascular occlusion; preeclampsia; embolism; platelet-associated ischaemic disorder; thrombotic disorder; reocclusion;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OKVNEIGIYLTDCMERAREVIPRSOHOETPVYLGATAGMRLLRMESEELADRVLDVVERS 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GASTOVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASN 242
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFV 97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BILROPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFBIQGIGNYQQCHQSILELFNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SYCPYSOCAFNGIFLPPLQGDFGAFSAPYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TSTONKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFV
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Pred. No. 2.6e-232;
1; Mismatches 0; Indels (
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Best Local Similarity 99.8<sup>3</sup>
Matches 440; Conservative
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383

302

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LSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLG 203
                                                                                                                                                                                                                                                    SYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWE 362
                                                                                                                                                                                                                                                                                                                                                  EIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYM 422
                                                                                                                                                                                                                                                                                                                                                                           unstable angina; myocardial infarction; stroke; forenary artery disease; atherosclerosis; peripheral vascular occlusion; preeclampsia; embolism; platelet-associated ischaemic disorder; lung ischaemia; thrombolytic; cerebral ischaemia; thrombotic disorder; coronary artery thrombosis; intracardiac thrombosis; venous thrombosis; peripheral artery thrombosis; coagulopathy; deep venous thrombosis; peripheral artery thrombosis; coagulopathy; deep venous thrombosis; proclusion; reacclusion; stenois; restenois; antianginal; cardiant; cerebroprotective; antiarteriosclerotic; vasotropic; anticoagulant; coronary ischaemia; vascular occlusion; plicitim variant variant.
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                                                                                 204 GASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALMQKLAKDIQVASN
                                                                                                                                                      BILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNT
                                                                                                                                                                               EILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNT
                                                                                                                                                                                                                                                                                       SYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Soluble CD39; ADP-induced platelet activation; platelet aggregation;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Protein encoded by Trim 1 construct.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                  443
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98US-0107466P.
99US-0149010P.
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(CORR ) CORNELL
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Synthetic.
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06-NOV-1998;
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thrombus formation, occlusion, stenosis, restenosis, angiogenesis, antianginal, cerebroprotective, antiarteriosclerotic, anticoagulant, cardiant, vasotropic, thrombolytic, inhibitor, interleukin 2, IL2.
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                                                                                                                                                                                                                                                 from human interleukin 2 (hIL2)"
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                                                                                                                                                                                                                                                                     24. .25
/note= "Cleavage site of leader sequence"
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/label= Leader peptide
/note= "Derived from hu
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98US-0107466P.
99US-0149010P.
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Best Local Similarity
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Synthetic.
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                                                           variant was constructed by removing the human IL2 residues from solcD39 fusion construct. Fusion of 12 amino acids from the N-terminus of mature human IL2 to the solcD39 coding region results in high levels of both expression and activity in the supernatants of transfected cells. SolcD39 is used in the treatment of unstable angina, mycardial infarction, stroke, coronary artery disease or injury, atherosclerosis, peripheral vascular occlusion, preeclampsia, embolism, platelet-associated ischaemic disorder including lung ischaemia, embolism, platelet-associated ischaemic ischaemia, a thrombosis, including coronary artery thrombosis, cerebral artery thrombosis, including coronary artery thrombosis, thrombosis, coagulopathy, deep venous thrombosis (bry), pulmonary embolism (PE), transient ischaemic attack. Soluble CD39 is also useful for preventing thrombus formation or reformation occlusion, reocclusion, stenosis or restenosis of blood
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                         Example 11; Page 111-112; 118pp; English.
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active fragment may be administered to treat or prevent stroke in a subject susceptible to intracranial haemorrhaging or an ischaemic alsorder. The CD39 polypeptide inhibits Abb-mediated plattelet aggregation or leukocyte accumulation andle inhibits Abb-mediated plattelet aggregation or leukocyte accumulation andle inhibits Abb-mediated plattelet aggregation subject. CD39 or its active fragment is useful for treating or preventing stroke, thrombotic disorders and ischaemic disorders such as peripheral infarction, transient ischaemic attack, unstable angina, reversible inschaemic neurological deficit and sickle cell anaemia. It is also useful for treating or preventing a stroke disorder in a subject undergoing heart surgery, lung surgery, spinal surgery, brain surgery, vascular surgery, abdominal surgery, or organ transplantation surgery
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Treating stroke in a subject susceptible to intracranial hemorrhaging an ischemic disorder, involves administering a CD39 polypeptide which inhibits ADP-mediated platelet aggregation or leukocyte accumulation.
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Search completed: March' 7, 2005, 13:13:13 Job time : 74.4797 secs'

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March 7, 2005, 13:23:03; Search time 51.9709 Seconds (without alignments) 2804.781 Million cell updates/sec
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2: \cgn2_6/ptodata/1/pubpaa/RCT_PUBCOMB.pep:*

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

Description	Sequence 30, Appl	Sequence 6, Appli	Sequence 29, Appl	28,	Sequence 3, Appli		Sequence 27, Appl	7	26,	Sequence 38, Appl	Sequence 2, Appli	Sequence 1, Appli	_:
SUMMARIES	US-09-835-147-30	US-09-835-147-6	US-09-835-147-29	US-09-835-147-28	US-09-835-147-3	US-09-835-147-8	US-09-835-147-27	US-09-374-586-2	US-09-835-147-26	US-10-092-063-38	US-09-835-147-2	US-09-374-586-1	US-09-781-796B-1
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; OTHER INFORMATION: Description of Artificial Sequence: Fusion ; OTHER INFORMATION: CONStruct of human CD39 US-09-835-147-30

Query Match 100.0%; Score 2368; DB 9; Length 463; Best Local Similarity 100.0%; Pred. No. 1.9e-211; Matches 443; Conservative 0; Mismatches 0; Indels 0

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Sequence 6, Application US/09835147

Patent No. US200200277A1

GENERAL INFORMATION:

APPLICANT: Maliszewski, Charles R.

APPLICANT: Gayle III, Richard B.

APPLICANT: Gimpel, Steven D.

TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment;

FILE REFERENCE: 2879-US

CURRENT APPLICATION NUMBER: US/09/835,147

CURRENT PILING DATE: 2001-04-13

PRIOR APPLICATION NUMBER: US 60/104,585

PRIOR FILING DATE: 1998-10-16

PRIOR APPLICATION NUMBER: US 60/149,010

PRIOR APPLICATION NUMBER: US 60/149,010

PRIOR APPLICATION NUMBER: PCT/US99/22955

PRIOR FILING DATE: 1999-10-13

PRIOR PILING DATE: 1999-10-13

PRIOR PRILING DATE: 1999-10-13

SOFTWARE: PatentIN Ver. 2.0

SEQ ID NO 6

LENGTH: 454

LENGTH: 454
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                                                                                                                                                                                                                                                                                SNEILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELF
   1 APTSTQNKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISK
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; OTHER INFORMATION: Description of Artificial Sequence:
; OTHER INFORMATION: construct of human CD39
US-09-835-147-6
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ORGANISM: Artificial Sequence
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US-09-835-147-6
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Matches 440
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63 OKVNEIGIYLTDCMERAREVIPRSQHQETPVYLGATAGMRLLRMESEELADRVLDVVERS 122
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                                                                            LSNYPFDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLG 182
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GASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALMQKLAKDIQVASN
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Patent No. US20020002277A1

GENURAL INFORMATION:

APPLICANT: Malszewski, Charles R.

APPLICANT: Gayle III, Richard B.

APPLICANT: Gimpel, Virginia L.

APPLICANT: Gimpel, Steven D.

TITLE NOF INVENTION: Inhibitors of Platelet Activation and Recruitment

FILE REFERENCE: 2879-US
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Best Local Similarity 99.8%; Pred. No. 5e-210;
Matches 440; Conservative 1; Mismatches 0; Indels
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OTHER INFORMATION: Description of Artificial Sequence:
OTHER INFORMATION: construct of human CD39
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CURRENT FILING DATE: 2001-04-13
PRIOR APPLICATION NUMBER: US 60/104,585
PRIOR FILING DATE: 1998-10-16
PRIOR FILING DATE: 1998-11-06
PRIOR FILING DATE: 1998-11-06
PRIOR FILING DATE: 1998-11-06
PRIOR FILING DATE: 1999-08-13
PRIOR FILING DATE: 1999-08-13
PRIOR FILING DATE: 1999-10-13
PRIOR FILING DATE: 1999-10-13
SPRIOR FILING DATE: 1999-10-13
SPRIOR FILING DATE: 1999-10-13
SPRIOR FILING DATE: 1999-10-13
SPRIOR FILING DATE: 1999-10-13
SPRIOR FILING DATE: 1999-10-13
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8 6 8

123 LSNYPPDPQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLG 182	& 8 & 8 & 8	183 GASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASN 242
EILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPPQQFEIQGIGNYQQCHQSILELFNT 302 	S d	303 SYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKYTEMMKKFCAQDWB 362
SYČPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKYTEMMKKFCAQPWE 362 	ç qa	363 BIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYM 422
EIŘTSYAGVKEKYLSBYCFSGTYILSLILQGYHFTADSWEHIHFIGKIQGSDAGWTLGYM 422 	& g	423 LNLTNMIPAEQPLSTPLSHST 443
LNLTNMIPAEQPLSTPLSHST 443 	RESULT US-09-8	SULT 5 -09-835-147-3 Sequence 3, Application US/09835147
SULT 4 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28 -00-885-147-28	APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLICA APPLIC	APPLICANT: Price, Virginia L. APPLICANT: Gimpel, Steven D. TILLE OF INVENTION INDIBLES (Price) APPLICANT: Gimpel, Steven D. TILLE OF INVENTION INDIBLES (Price) APPLICANT: Gimpel, Steven D. TILLE OF INVENTION INDIBLE: US/09/815,147 CURRENT APPLICATION NUMBER: US 60/104,585 PRIOR PRILING DATE: 1999-10-13 PRIOR PRILING DATE: 1999-10-13 PRIOR PRILING DATE: 1999-10-13 PRIOR PLILING DATE: 1999-10-13 PRIOR PLILING DATE: 1999-10-13 PRIOR PLILING DATE: 1999-10-13 PRIOR PLILING DATE: 1999-10-13 PRIOR PLILING DATE: 1999-10-13 PRIOR PLILING DATE: 1999-10-13 PRIOR APPLICATION NUMBER: US 60/149,010 PRIOR PRILING DATE: 1999-10-13 PRIOR APPLICANTON NUMBER: US 60/149,010 PRIOR APPLICANTON NUMBER: US 60/149,010 PRIOR APPLICANTON NUMBER: US 60/149,010 PRIOR APPLICANTON NUMBER: US 60/149,010 PRIOR APPLICANTON NUMBER: US 60/149,010 PRIOR APPLICANTON NUMBER: US 60/149,010 PRIOR APPLICANTON NUMBER: US 60/149,010 PRIOR APPLICANTON NUMBER: US 60/149,010 PRIOR APPLICANTON NUMBER: US 60/149,010 PRIOR APPLICANTON NUMBER: US 60/149,010 PRIOR APPLICANTON NUMBER: US 60/149,010 PRIOR APPLICANTON NUMBER: US 60/149,010 PRIOR APPLICANTON NUMBER: US 60/149,010 PRIOR APPLICANTON NUMBER: US 60/149,010 PRIOR APPLICANTON NUMBER: US 60/149,010 PRIOR APPLICANTON NUMBER: US 60/149,010 PRIOR APPLICANTON NUMBER: US 60/149,010 PRIOR APPLICANTON NUMBER: US 60/149,010 PRIOR APPLICANTON NUMBER: US 60/149,010 PRIOR APPLICANTON NUMBER: US 60/149,010 PRIOR APPLICANTON NUMBER: US 60/149,010 PRIOR APPLICANTON NUMBER: US 60/149,010 PRIOR APPLICANTON NUMBER: US 60/149,010 PRIOR APPLICANTON NUMBER: US 60/149,010 PRIOR APPLICANTON NUMBER: US 60/149,010 PRIOR APPLICANTON NUMBER: US 60/149,010 PRIOR APPLICANTON NUMBER: US 60/149,010 PRIOR APPLICANTON NUMBER: US 60/149,010 PRIOR APPLICANTON NUMBER: US 60/149,010 PRIOR APPLICANTON NUMBER: US 60/149,010 PRIOR APPLICANTON NUMBER: US 60/149,010 PRIOR APPLICANTON NUMBER: US 60/149,010 PRIOR APPLICANTON NUMBER: US 60/149,010 PRIOR APPLICANTON NUMBER: US 60/149,010 PRIOR APPLICANTON NUMBER: US 60/149,010 PRIOR APPLICANTON NUMBE
63 OKVNBIGIYLTDCMERAREVIPRSQHOETPVYLGATAGMRLLRMESEELADRVLDVVERS 122 	장 염	123 LSNYPPDFQGARIITGQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLG 182
LSNYPPDFQCARIITCQEEGAYGWITINYLLGKFSQKTRWFSIVPYETNNQETFGALDLG 182 	& g	183 GASTQVTFVPQNQTIESPDNALQFRLYGKDYNVYTHSFLCYGKDQALWQKLAKDIQVASN 242

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EILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNT 302
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GARBEAL INCRMATION.

APPLICANT: Maliszewski, Charles R.

APPLICANT: Gayle III, Richard B.

APPLICANT: Price, Virginia L.

APPLICANT: Gimpel, Steven D.

TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE REPRENCE: 2879-US

CURRENT FILING DATE: 2001-04-13

PRIOR FILING DATE: 1998-10-16

PRIOR PLICATION NUMBER: US 60/107,466

PRIOR APPLICATION NUMBER: US 60/107,466

PRIOR PLING DATE: 1998-11-06

PRIOR PLING DATE: 1999-08-13

PRIOR FILING DATE: 1999-08-13

PRIOR FILING DATE: 1999-08-13

PRIOR FILING DATE: 1999-10-13

PRIOR FILING DATE: 1999-10-13

PRIOR FILING DATE: 1999-10-13

SOFTWARE: PATENTION NUMBER: PCT/US99/22955

PRIOR PLICATION NUMBER: PCT/US99/22955

PRIOR PLICATION NUMBER: PCT/US99/22955

PRIOR PLICATION NUMBER: PCT/US99/22955
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SYCPYSQCAFNGI FLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWE
                                  338 SYCPYSQCAFNGIFLPPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWE
                                                                                              EIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYM
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COTHER INFORMATION: construct of human CD39
US-09-835-147-27
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99.2%; Score 2350; DB 9;
Best Local Similarity 99.5%; Pred. No. 9.2e-210;
Matches 439; Conservative 2; Mismatches 0;
                                                                                                                                                                                               423 LNLTNMIPAEQPLSTPLSHST 443
                                                                                                                                                                                                                        Sequence 27, Application US/09835147; Patent No. US20020002277A1; GENERAL INFORMATION:
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ORGANISM: Artificial Sequence
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US-09-835-147-27
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APPLICANT: Maliezewski, Charles R.
APPLICANT: Gayle III, Richard B.
APPLICANT: Price, Virginia L.
APPLICANT: Price, Virginia L.
APPLICANT: Price, Virginia L.
APPLICANT: Price, Virginia L.
TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment
FILE REFERENCE: 2879-US
CURRENT APPLICATION NUMBER: US/09/835,147
CURRENT FILING DATE: 1998-10-16
PRIOR FILING DATE: 1998-11-06
PRIOR FILING DATE: 1998-11-06
PRIOR APPLICATION NUMBER: US 60/107,466
PRIOR APPLICATION NUMBER: US 60/149,010
PRIOR FILING DATE: 1999-10-13
PRIOR FILING DATE: 1999-10-13
NUMBER OF SEQ ID NOS: 31
SOFTWARE: Patchtin Ver. 2.0
SEQ ID NO 8
LUMBER OF SEQ ID NOS: 31
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                                       276 EILRDPCFHPGYKKVVNVSDLYKTPCTKRFEMTLPFQQFEIQGIGNYQQCHQSILELFNT
                                                                                                        SYCPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OTHER INFORMATION: Description of Artificial Sequence: OTHER INFORMATION: construct of human CD39
US-09-835-147-8
                                                                                                                                                                                                                                                                                                                            LNLTNMIPAEQPLSTPLSHST 443
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Patent No. US20020002277A1
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Sequence 38, Application US/10092063
Publication No. US20020173005A1
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Ford, John
APPLICANT: Mileo, Julio
TITLE OF INVENTION: METHODS AND MATERIALS RELATING TO NOVEL CD39-LIKE POLYPEPTIDES
FILE REFERENCE: 28110/35908
CURRENT APPLICATION NUMBER: 20/2-03-05
PRIOR APPLICATION NUMBER: 09/370,265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         49 TONKALPENVKYGIVLDAGSSHTSLYIYKWPAEKENDTGVVHQVEECRVKGPGISKFVQK 108
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    Steven D. Inhibitors of Platelet Activation and Recruitment
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       99.2%; Score 2348; DB 9; L
100.0%; Pred. No. 1.5e-209;
ive 0; Mismatches 0;
          APFILLIANI: CIMPLY.
TITLE OF INVENTION: Inhibitors of Platelet AC FILE REFERENCE: 2879-US
CURRENT APPILCATION NUMBER: US/09/835,147
CURRENT FILING DATE: 1001-04-13
PRIOR APPLICATION NUMBER: US 60/104,585
PRIOR PILING DATE: 1998-10-16
PRIOR APPLICATION NUMBER: US 60/107,466
PRIOR APPLICATION NUMBER: US 60/149,010
PRIOR FILING DATE: 1999-10-13
PRIOR FILING DATE: 1999-08-13
PRIOR FILING DATE: 1999-08-13
PRIOR FILING DATE: 1999-10-13
NUMBER OF SEQ ID NOS: 31
SOFTWARE: PATENTIN Ver. 2.0
SEQ ID NO 26
LENGTH: 487
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Best Local Similarity 100.
Matches 439; Conservative
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US-10-092-063-38
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                         384 EIKTSYAGVKEKYLSEYCFSGTYILSLILQGYHFTADSWEHIHFIGKIQGSDAGWTLGYM
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EIKTSYAGVKEKYLSEYCFSGTYILSLLLQGYHFTADSWEHIHFIGKIQGSDAGWTLGYM
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                                                                                                                                                                                                                  Sequence 2, Application US/09374586
Patent No. US20020138858A1
GENERAL INFORMATION:
GENERAL INFORMATION:
TITLE OF INVENTION: CD39/ECTO-ADPASE AS A TREATMENT FOR THROMBOTIC AND TITLE OF INVENTION: ISCHEMIC DISORDERS
FILE REPRENCE: 0579/59167
CURRENT APPLICATION NUMBER: US/09/374,586
CURRENT FILING DATE: 1999-08-13
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 2
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 2
SOFTWARE: A39
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                                                                                  LINITIMIPAEOPLSTPLSHST 443
                                                                                                       444 LNLTNMIPAEOPLSTPLSHST 464
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Patent No. US20020002277A1
GENERAL INFORMATION:
APPLICANT: Maliazewski, Charles R. APPLICANT: GAyle III, Richard B. APPLICANT: Price, Virginia L.
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US-09-374-586-2
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Matches 439; Conserv
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US-09-835-147-26
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Matches 439; Conservative
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ORGANISM: Homo sapiens
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Best Local Similarity
                                                                                                                                                      LENGTH: 510
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US-09-374-586-1
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Sequence 2, Application US/09835147
Patent No. US20020002277A1
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Maliszewski, Charles R.
APPLICANT: Gayle III, Richard B.
APPLICANT: Price, Virginia L.
APPLICANT: Gimpel, Steven D.
ITILE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE REFERENCE: 2879-US
CURRENT APPLICATION NUMBER: US 60/9835,147
CURRENT FILING DATE: 2001-04-13
PRIOR FILING DATE: 1998-10-16
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PRIOR FILING DATE: 1999-07-16
PRIOR APPLICATION NUMBER: PCT/US99/16180
PRIOR APPLICATION NUMBER: 09/550,836
PRIOR APPLICATION NUMBER: 09/23,447
PRIOR FILING DATE: 1999-07-09
PRIOR PLING DATE: 1999-03-19
PRIOR PLING DATE: 1999-02-04
PRIOR PLING DATE: 1999-02-04
PRIOR PLING DATE: 1998-07-16
PRIOR PLING DATE: 1998-07-16
PRIOR FILING DATE: 1998-07-16
NUMBER OF SEQ ID NOS: 39
SEQ ID NO 38
LENGTH: 502
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; ORGANISM: Homo sapiens
US-10-092-063-38
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US-09-835-147-2
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Patent No. US20020138858A1
SEGNERAL INFORMATION:
APPLICANT: Pinsky, David J.
TITLE OF INVENTION: CD39/ECTO-ADPASE AS A TREATMENT FOR THROMBOTIC AND TITLE OF INVENTION: ISCHEMIC DISORDERS
FILE REFERENCE: 0575/59167
CURRENT APPLICATION NUMBER: US/09/374,586
CURRENT FILING DATE: 1999-08-13
NUMBER OF SEQ ID NOS: 2
SOFTWARE: Patentin Ver. 2.1
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Pred. No. 1.6e-209;
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100.0%; Pred. No. 1.6e-209;
iive 0; Mismatches 0;
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100.0%; Pred. No. ...
0; Mismatches
PRIOR APPLICATION NUMBER: US 60/107,466
PRIOR FILING DATE: 1998-11-06
PRIOR APPLICATION NUMBER: US 60/149,010
PRIOR PILING DATE: 1999-08-13
PRIOR PILING DATE: 1999-08-13
PRIOR FILING DATE: 1999-10-13
NUMBER OF SEQ ID NOS: 31
SOFTWARE: PATENTIN VEY: 2.0
SEQ ID NO
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Sequence 30, Application US/10646308

Publication No. US20040136992A1

GENERAL INFORMATION:
APPLICANT: BURION, Paul B. J.
APPLICANT: BURION, Paul B. J.
APPLICANT: DEISHER, Theresa A.
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR TREATING CARDIOVASCULAR DISEASE
FILE REFERENCE: 3432-B
CURRENT APPLICATION NUMBER: US/10/646,308
CURRENT PILING DATE: 2003-08-21

PRIOR FILING DATE: 2003-08-12
PRIOR PILING DATE: 2002-08-28

PRIOR FILING DATE: 2002-08-28

NUMBER OF SEQ ID NOS: 36

SOFTWARE: PATENTIN VERSION 3.2

SEQ ID NO 30

FEAST DE NO 30

FEAST DE NO 30

FEAST DE NO 30
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100.0%; Pred. No. 1.6e-209;
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Best Local Similarity 100.
Matches 439; Conservative
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ORGANISM: Homo sapiens
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Publication No. US20030040094A1
GENERAL INFORMATION:
APPLICANT: BACH, FRILZ H.
APPLICANT: BACH, FRILZ H.
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APPLICANT: BACH, FRILZ H.
APPLICANTON: TECHNOLOGY
FILE OF INVENTION: TECHNOLOGY
FILE OF INVENTION: TECHNOLOGY
FILE PREPRIENCE: 92033.90019
CURRENT PILING DATE: 2001-02-12
FRICR PLING DATE: 1995-04-10
FRICR PLING DATE: 1996-04-10
FRICR FILING DATE: 1996-02-01
FRICR PRING APPLICATION NUMBER: 08/930,921
FRICR FILING DATE: 1996-02-01
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Matches 439; Conservative
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US-09-781-796B-1
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Patent No. US20020002277A1

Fetent No. US20020002277A1

Fetent No. US20020002277A1

Fetent No. US20020002277A1

FETENSEAL INFORMATION:

APPLICANT: Maintener R.

APPLICANT: Price, Virginia L.

APPLICANT: Gimpel, Steven D.

TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE REFERENCE: 2879-US

CURRENT PAPLICATION NUMBER: US/09/835,147

CURRENT FILING DATE: 1998-10-16

FRIOR APPLICATION NUMBER: US 60/107,466

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CPYSQCAFNGIFLPPLQGDFGAFSAFYFVMKFLNLTSEKVSQEKVTEMMKKFCAQPWEE1
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NAME/KEY: VARIANT
LOCATION: (39)
COTHER INFORMATION: Any amino acid, preferably Cys or Ser
US-09-835-147-4
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US-09-835-147-4
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